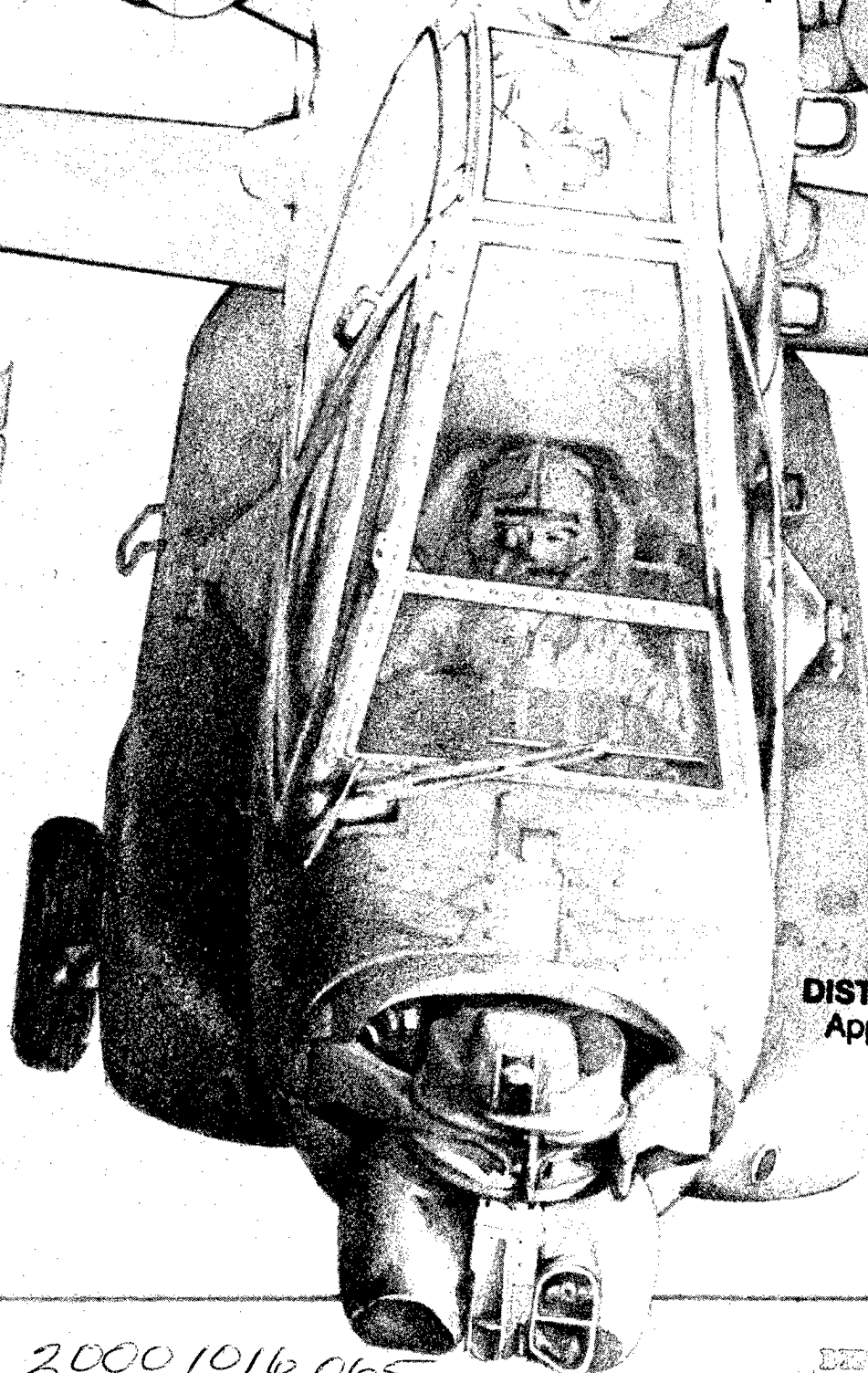


Twelfth Edition

guide

to Aviation Resources Management
for Aircraft Mishap Prevention



DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

MARCH 1992

2000 1014 065

DTIC 92-0014 065

PLEASE CHECK THE APPROPRIATE BLOCK BELOW:

- AO # _____
- ☐ _____ copies are being forwarded. Indicate whether Statement A, B, C, D, E, F, or X applies.
- ☒ DISTRIBUTION STATEMENT A:
APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED
- ☐ DISTRIBUTION STATEMENT B:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES ONLY; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ DISTRIBUTION STATEMENT C:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ DISTRIBUTION STATEMENT D:
DISTRIBUTION AUTHORIZED TO DoD AND U.S. DoD CONTRACTORS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ DISTRIBUTION STATEMENT E:
DISTRIBUTION AUTHORIZED TO DoD COMPONENTS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).
- ☐ DISTRIBUTION STATEMENT F:
FURTHER DISSEMINATION ONLY AS DIRECTED BY (Indicate Controlling DoD Office and Date) or HIGHER DoD AUTHORITY.
- ☐ DISTRIBUTION STATEMENT X:
DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND PRIVATE INDIVIDUALS OR ENTERPRISES ELIGIBLE TO OBTAIN EXPORT-CONTROLLED TECHNICAL DATA IN ACCORDANCE WITH DoD DIRECTIVE 5230.25. WITHHOLDING OF UNCLASSIFIED TECHNICAL DATA FROM PUBLIC DISCLOSURE. 6 Nov 1984 (indicate date of determination). CONTROLLING DoD OFFICE IS (Indicate Controlling DoD Office).
- ☐ This document was previously forwarded to DTIC on _____ (date) and the AD number is _____
- ☐ In accordance with provisions of DoD instructions, the document requested is not supplied because:
- ☐ It will be published at a later date. (Enter approximate date, if known).
- ☐ Other. (Give Reason)

DoD Directive 5230.24, "Distribution Statements on Technical Documents," 18 Mar 87, contains seven distribution statements, as described briefly above. Technical Documents must be assigned distribution statements.

Cynthia Gleisberg
Authorized Signature/Date

Cynthia Gleisberg
Print or Type Name
DSN 205 558-2924
Telephone Number

Preface

This Twelfth Edition of the Guide to Aviation Resources Management for Aircraft Mishap Prevention provides guidelines for implementing and maintaining an effective aviation mishap prevention program. It is intended to be used as an aid in evaluating the systems used by commanders and aviation safety officers in accomplishing unit missions. Experience has proven that exceptional levels of readiness can be achieved only through effective management and conservation of all available resources.

This publication supersedes the Eleventh Edition of the Guide to Aviation Resources Management for Aircraft Mishap Prevention. References cited are to publications in effect in October 1991. Subsequent changes will be published when a substantial amount of the material is affected by changes in references or technical procedures. Announcement of these changes and publication of additional sections will appear in *Flightfax*.

Users of this book are encouraged to submit recommended changes and comments to improve its effectiveness. Comments should be substantiated with reasons and keyed to the specific page, question number, and line being considered.

The ATC Operations and Functions portion of the Guide was deleted from this edition. A complete and current copy of the checklist may be obtained from the Director, U.S. Army Air Traffic Control Activity, U.S. Army Aviation Center, Fort Rucker, AL 36362.

Comments may be forwarded using the self-addressed mailer after the glossary or by contacting the Aviation Branch Safety Office, U.S. Army Aviation Center, ATTN: ATZQ-S, Fort Rucker, AL 36362-5000 (AV 558-2388) (Comm 205-255-2388).

20001016 065

How to Use This Guide

Although this Guide is in a checklist format, it is not fully effective unless it has been adapted and upgraded with the regulations and requirements of your individual unit and chain of command. Some items listed in the Guide do not have a regulatory reference because no DA-level reference existed at the time of printing. However, the items may be required at a MACOM or lower level. In any event, the items listed without a reference are worth considering when surveying your unit.

The Guide will serve you best if you customize it to include local requirements and place it in a three-ring binder. Your higher headquarters should provide you with their "customized" versions. This assists you in finding MACOM requirements as well as identifying, up front, those items considered critical to your chain of command. Individual sections may be locally reproduced to provide worksheets for conducting accident prevention surveys. Copies of the Guide may be obtained on "floppy disks" (the requestor must furnish two disks) from the Aviation Branch Safety Office, U.S. Army Aviation Center, ATTN: ATZQ-S, Fort Rucker, AL 36362-5000. This will facilitate development of customized versions.

Once you have developed your customized "guide," provide advance copies to the sections of the unit you will be surveying. This will give them the required standards "up front." To inspect or survey a unit without their having knowledge of all the standards is a waste of time and assets, serving only to delay implementation of corrective actions. Systemic defects are easier to detect if you are not having to waste time pointing out deficiencies that could have been corrected by the first-line leader had he had knowledge of the standard.

An operational analysis of the unit can best be performed by obtaining the data required to complete Section 1. Analysis of this data will help identify both existing and potential systems defects. Using the "reasonable man" concept, unit activities most affected and, therefore, most in need of a detailed evaluation can be identified. It is recommended that this information be maintained to help identify trends and aid in formulating well-targeted countermeasures.

Questions contained in this Guide are based on Department of the Army publications effective in October 1991, the Occupational Safety and Health Act (OSHA) requirements (29 CFR 1910 General Industry Standards), applicable fire and electrical codes, accepted civilian and military safety practices, and sound judgment. Locally prepared questions referencing major and subordinate command regulations should be added to appropriate sections in your customized version.

Abbreviations and acronyms are spelled out in the Glossary.

Table of Contents

Section	Page
1 Statistics and Operational Analysis	1-1
2 Aviation Safety Management	2-1
3 Aviation Life Support Equipment	3-1
4 POL Facilities and Operations	4-1
5 Aircraft Operations	5-1
6 Aircraft Crash Rescue	6-1
7 Standardization and Training	7-1
Part I—Standardization	
Part II—Aircrew Training Program	
8 Operations	8-1
Part I—Facility/Installation Operations	
Part II—Unit Operations	
Part III—Night Vision Goggles	
9 Airfield Data	9-1
10 Aviation Medicine	10-1
11 Weather Facilities	11-1
12 Pathfinders	12-1
13 Maintenance Management	13-1
14 Quality Assurance	14-1
15 Maintenance Work Area	15-1
16 Battery Shop/Maintenance	16-1
17 Avionics/Electrical	17-1
18 Aviation Armament	18-1
19 Technical Supply	19-1
20 References	20-1
Glossary	

Section 1

Statistics and Operational Analysis

1. What is the assigned versus authorized strength of commissioned officers, warrant officers, and enlisted personnel?

2. Are personnel shortages that affect the unit mission properly identified?

3. What is the experience level of key personnel (commander, executive officer, operations officer, safety officer, maintenance officer, etc.)?

4. Are key personnel aware of the experience levels of assigned aviators?

a. Number assigned directly from flight school?

b. Number of IFEs/SIPs/IPs/UTs/MTFEs/MTPs?

c. Number of aviators with more than 3 years experience or 2000 hours flight time?

d. Number of NVG qualified/current aviators? Percent of unit required to maintain currency?

e. Other aviators in the unit (e.g., staff aviators, enlisted aerial observers, etc.)?

f. Are crewmembers battle-rostered?

5. What were the actual flying hours of the unit compared to the authorized flying-hour program over the past year?

6. What was the average aircraft density during the past year by type, model, and series?

7. What percentage of assigned personnel are of grades equal to or lower than those authorized in the TOE or TDA?

Equal to: _____ Lower than: _____

8. What percentage of assigned personnel are not performing in their MOS?

9. What position vacancies are considered critical to mission accomplishment?

10. How long have the vacancies existed, and what steps have been taken to fill them?

11. How many operational hazard reports (OHRs) have been recorded during the past 12 months?

12. Were the OHRs expeditiously processed? (AR 385-95, para 2-5)

13. Have accident prevention surveys been conducted at least semiannually? (AR 385-95, para 1-6a(3))

14. Have these surveys and OHRs resulted in identification of systems defects?

15. Have countermeasures been established to correct these systems defects? (AR 385-95, paras 1-6c(21) and (27); AR 385-10, para 1-5e)

16. Are file copies of surveys, OHRs, identified systems defects, and established countermeasures maintained and periodically reviewed to determine the effectiveness of countermeasures? (AR 385-95, paras 1-6c(17) and (21))

17. What is the overall morale of the unit?

18. Are safety-qualified officers (commissioned and warrant) and NCOs being used as safety managers? Are safety-qualified NCOs being used in A2 positions? (AR 385-95, paras 1-5b(5) and 1-6a(13))

19. Are all TOE/TDA-authorized safety positions being filled with qualified safety personnel? If not, what steps have been taken to satisfy this requirement? (AR 385-95, paras 1-5b(5) and 1-6a(13))

20. Are any safety-qualified personnel in the unit not being directly used in the safety program? If so, why not?

21. How many aviation mishaps (by class) has the unit had within the last 3 years?

22. Is the composition of Army aircraft accident investigation boards in accordance with appropriate directives? (AR 385-40, paras 1-8, 4-10, 4-11, and 4-12)

23. Are collateral investigations of aircraft mishaps conducted in accordance with appropriate directives and regulations? (AR 385-40, para 1-7c; AR 15-6; DA Pam 385-95)

24. Is there an effective safety awards program? (AR 672-74, paras 1-6 and 3-7; AR 385-95, paras 1-6c(23) and C-13)

Section 2

Aviation Safety Management

1. Does the commander have a formal, written aviation accident prevention plan that is compatible with the mission and function of the unit? (AR 385-95, para 1-5b(2))

2. Commander's responsibilities.

a. Does the unit SOP include those items listed in AR 385-95, para 1-6a(4) that pertain to the unit? Is the SOP current, complete, and well written? Is safety integrated throughout the SOP IAW AR 385-95, para 1-5a(2) or is safety in a "stand alone" safety section?

b. Are all personnel aware of the commander's safety policy, to include the SOP, and are they actively implementing it? (AR 385-95, para 1-6a(6))

c. Is the commander involved in the unit aircraft accident prevention program and personally reviewing program efforts? (AR 385-95, para 1-6a(12))

d. Is the ASO a member of the commander's special staff, and does the ASO have direct access to the commander on all matters pertaining to aviation safety? (AR 385-95, para 1-6a(11))

3. Is the ASO assigned to a TOE/TDA-authorized full-time position? (AR 385-95, para 1-5b(5))

4. Is the ASO MOS-qualified or a graduate of the Aviation Safety Officer Course? (AR 385-95, paras 1-5b(5) and (13)) What other training has the ASO accomplished to enhance his technical expertise (e.g., selected courses in DA Pam 351-20 such as Special Course for Safety Management (Basic), Ammunition/Explosive Storage Standards, Subcourse MM4647, or similar training given via correspondence courses, classroom presentations, seminars, etc.). Have Flight Safety Technicians received continuing education units (CEUs) over the past year?

5. ASO's responsibilities.

a. Does the ASO observe flight and ground operations to detect and correct unsafe practices? (AR 385-95, para 1-6c(1))

b. Does the ASO review each assigned and attached aviator's flight records and the unit training program to detect systems defects and to design countermeasures? (AR 385-95, para 1-6c(10))

c. Does the ASO gather and disseminate flight safety literature (i.e., *Flightfax*) and develop programs to promote safety awareness? (AR 385-95, para 1-6c(9))

d. Does the ASO maintain current files of safety regulations, aircraft accident prevention directives, and instructional materials? (AR 385-95, para 1-6c(8); AR 385-10, para 5-2v)

e. Does the ASO maintain unit aircraft mishap records and statistics to identify systems defects within the command? (AR 385-95, paras 1-6c(4), (17), and (21); DA Pam 385-95, para 1-8)

f. Does the ASO maintain a close working relationship with the maintenance officer, the flight standardization officer, the flight surgeon, and ground safety personnel? (385-10, para 5-2p)

6. Does a channel exist through which the ASO can coordinate safety matters with both higher and lower headquarters (i.e., safety councils and "safety chain")? (AR 385-95, para 1-4c)

7. Does the ASO discuss problems with the installation safety director? Does the installation safety director support the aviation safety program? (AR 385-95, para 1-6b)

8. Is the ASO responsible for ground safety? If so, what type of program exists? (AR 385-95, paras 1-5a, 1-6a(11), and 1-6c(1))

9. Aviation accident prevention survey.

a. Does the ASO perform an aviation accident prevention survey at least semiannually to annotate the physical condition of all areas within unit control that affect aviation operations and document operator errors, systems defects, and possible countermeasures? (AR 385-95, para 1-6a(3); FM 1-300, para 6-2d)

b. Does the ASO maintain a suspense file on safety deficiencies to ensure appropriate corrective actions are taken? (AR 385-95, paras 1-6c(17), (21), and C-4d)

c. Does the ASO properly analyze identified operating errors (unsafe acts and conditions found) to determine what systems defect (root cause) allowed the operating errors to exist? (AR 385-10)

d. Does the ASO recommend to the commander effective countermeasures, implementation procedures, and control measures designed to eliminate identified root causes? (AR 385-10, para 5-2k)

e. Are followup inspections made to ensure appropriate countermeasures have been adopted by the commander? (AR 385-95, paras 1-6c(17) and (21))

10. Safety education.

a. Does the ASO plan, promote, and conduct monthly safety education/training sessions? (AR 385-95, para 1-6c(3))

b. Do unit files reflect dates, subjects, speakers, and attendance of the monthly safety training? (AR 385-95, para 1-5b(6))

c. Is safety training planned and conducted in a professional manner?

d. Does the commander attend and participate in monthly safety training?

e. Have monthly safety training sessions during the past 12 months included—

(1) Safety aspects of maintenance (equipment log entries, EIR program, oil analysis, etc.)? (AR 385-95, para 1-6e)

(2) Physiological and psychological subjects presented by the flight surgeon? (AR 385-95, para 1-6f(8))

(3) An analysis of recent mishaps? (AR 385-95, paras 1-6a(12)(c) and 1-6c(3) and (11))

(4) A review of FOD mishaps? (AR 385-95, paras 1-6c(15) and 3-3b(4))

(5) Guest speakers on weather, aviation safety, and air traffic control subjects? (AR 385-95, para 1-6c(3))

(6) Are safety matters discussed at safety council meetings presented during monthly safety training? (AR 385-95, para 1-6c(3))

(7) Is monthly safety training being conducted as applicable for ground/maintenance personnel on safety aspects of ground handling, shop safety, refueling, fuel storage, in-flight

hazards to crewmembers and passengers, hazards of aircraft during runup, FOD, maintenance-induced materiel failure, mishaps resulting from maintenance errors, use of fire extinguishers, and activation of pre-accident plans? (AR 385-95, paras 1-6c(3) and 1-6e(2))

11. Safety councils.

a. Is an aviation safety council established as outlined in AR 385-95? (AR 385-95, para 1-6(12)(b) and appendix C)

b. Does the commander preside over safety council meetings, and does the ASO act as recorder? (AR 385-95, appendix C-6a(1) and (2))

c. Is membership appropriate for the unit? (AR 385-95, para 1-6a(12)(b) and appendix C-6a)

d. Does the commander review and approve the minutes? (AR 385-95, appendix C-4d(2))

e. Are council recommendations implemented? (AR 385-95, appendix C-4e)

f. Does the unit have an enlisted safety council? (AR 385-95, para 1-6a(12)(b))

12. Pre-accident plan.

a. Has a pre-accident plan been developed, published, and rehearsed at least quarterly (but, even better, monthly) to ensure currency (names, telephone and pager numbers, and radio frequencies)? Does the unit develop a pre-accident plan (e.g., a "shell") for off-airfield operations during FTXs (a fill in the blank "shell" type of plan may be used as a basis), deployment to war, etc.? (AR 385-95, paras 1-6j(7) and (8), 1-6c(5), and appendix C-15) Does the unit have a separate pre-accident plan for ground accidents?

b. Can the plan be implemented in an orderly and timely fashion? (AR 385-95, paras 1-6j(7)(8), 1-6c(5), and appendix C-15)

c. Do major sections of the unit maintain copies of the plan?

d. Is the system used to notify the ASO of a mishap timely and dependable? (AR 385-95, appendix C-15b(1)(b))

13. Accident investigation board.

a. Has the command exercising general court-martial jurisdiction developed a plan, in writing, to initiate appointment of an aircraft accident investigation board or provide support to a centralized accident investigation board from USASC? (AR 385-40, paras 1-8, 4-13, and 5-8; AR 385-95, appendix C-15c(11))

b. Does board composition ensure skills are provided to properly investigate an aircraft accident? (AR 385-40, paras 1-8, 4-11, and 5-2b)

c. Are references, accident forms, and investigation kits maintained for ready issue when needed? (AR 385-95, para 1-6j(7)(8); DA Pam 385-95, para 2-4)

d. Is training conducted for board members? (AR 385-95, paras 1-5b(6) and 1-6c(3))

14. Does each aviator display an interest in mishap prevention? (AR 385-95, para 1-6d(4)(5))

15. Preliminary Report of Aircraft Mishap.

a. Is a PRAM message submitted on all aircraft mishaps? (AR 385-40, paras 4-8 and 4-9)

b. Have any mishaps been reported more than 5 working days after the mishap? If so, why?
(AR 385-40, para 4-8a(4))

c. Is a suspense file established for supplemental messages when required? (AR 385-40,
para 4-8c)

d. Is a file maintained on all PRAM messages submitted? (AR 385-95, paras 1-6c(4) and
C-1)

e. Are all EIR, part number, NSN, and TAMMS data elements verified in appropriate parts
and technical manuals? (AR 385-40, para 4-9q(3))

16. Are aircraft precautionary and forced landings investigated to determine causes?

17. Is followup action taken to correct the causes of forced landings or submit EIRs as
appropriate?

18. Are ground mishaps, both aviation (engines not operational) and nonaviation, investigated
and reported on DA Form 285? (AR 385-40, para 5-3)

19. Safety bulletin board.

a. Does the unit maintain separate aviation safety bulletin boards for crew and maintenance
personnel?

b. Is posted material timely, pertinent, and replaced frequently to maintain reader interest?

20. Safety awards.

a. Is there an active safety awards program (both unit and individual) in the unit? (AR 385-95, paras 1-6c(23) and 1-6b; AR 385-10, para 2-2e(3); AR 672-74)

b. Does the ASO monitor the safety awards program to ensure qualifying crewmembers, crewchiefs, vehicle operators, fuel handlers, and other support personnel are nominated for safety awards?

21. Operational hazard report.

a. Are OHRs (DA Form 2696) readily available and properly used? (AR 385-95, para 2-5b(2))

b. Are OHRs used to identify system inadequacies and develop countermeasures? (AR 385-95, para 2-5b(3))

22. Does the ASO monitor QDR, EIR, and MWO records, and is pertinent information disseminated to all crewmembers?

23. Foreign object damage.

a. Has an FOD program been established in accordance with AR 385-95? (AR 385-95, para 3-3)

b. Is a unit FOD prevention officer designated in writing? (AR 385-95, para 3-3b)

c. Does the unit have a written FOD prevention plan? (AR 385-95, para 3-2b)

24. Does the ASO monitor all aviation activities to ensure proper use of protective clothing and ALSE? (AR 95-3, para 7-1h)

25. First aid.

a. Does the unit have a first aid training program that addresses hazards typically associated with its mission? (STP 21-1-SMCT, Give First Aid)

b. As a minimum, does the program include training in prevention and treatment of hot- and cold-weather injuries as appropriate? (AR 385-95, para 1-6b(12)(c))

Section 3

Aviation Life Support Equipment

NOTE: For an expanded checklist, see appendix B, FM 1-508: Maintenance Aviation Life Support Equipment.

1. Does the unit have the proper ALSE, and have unit personnel received proper related training commensurate with the mission and operational environment? (AR 95-3, para 7-1e; AR 385-95, appendix C-8d(18))

2. Does the ASO monitor all aviation activities to ensure proper use of protective clothing and ALSE? (AR 95-3, para 7-1h; AR 385-95, para 1-6c(18))

3. Is the aviation life support officer (ALSO) appointed on unit orders? (AR 95-3, para 7-1i)

4. Does the ALSO perform the following duties? (AR 95-3, para 7-1i)

a. Review, analyze, and develop procedures to ensure planning, budgeting, and maintenance of an aviation life support system (ALSS)?

b. Ensure training of aircrew personnel in the proper operation, use, and operator maintenance of survival equipment and in the techniques of survival?

c. Supervise the life support section, and ensure that qualified personnel are available to conduct life support and survival training and maintenance of organizational-level ALSE?

d. Keep a current file of regulations, procedures, technical orders, NAVAIRs, technical manuals, and ALSE messages pertaining to inspection, maintenance, and use of assigned life support equipment? (AR 95-3, para 7-1; AR 385-95, para 1-6l(4))

e. Ensure that the unit has adequate information and training before using new equipment or system changes?

f. Encourage unit personnel to submit ALSE suggestions, QDRs, and OHRs?

g. Submit QDRs on life support equipment that fails to operate as designed? (DA Pam 738-751)

h. Participate as an ALSE member of the Unit Aviation Safety Council (formally appointed by commander)? (AR 385-95, para 1-6a(12)(b))

i. Assist higher headquarters in standardizing the ALSS program?

5. Is an aviation life support equipment technician (ALSET) appointed to assist, advise, and represent the ALSO in all matters pertaining to ALSE? (AR 95-3, para 7-1j)

6. Is the ALSET school trained, and was the course of instruction approved by the U.S. Army Aviation Logistics School (USAALS)? (AR 95-3, para 7-8)

7. Does the ALSET, or ALSO in his absence, perform the following functions? (AR 95-3, para 7-1j)

a. Ensure that the unit's pinpoint distribution account is updated to include ALSE publications and necessary forms?

b. Ensure that all ALSE is maintained in a high state of readiness through inspecting, cleaning, fitting, testing, adjusting, and repairing?

c. Maintain files on—

- (1) Inspections _____
- (2) Maintenance _____
- (3) Expiration dates _____
- (4) Supply requests _____

d. Participate as enlisted representative at Enlisted Safety Council meetings and conferences?

e. Participate in local ALSE Steering Council meetings?

f. Inspect all controlled drugs used in survival kits and vests?

8. Do unit pilots-in-command (PCs) ensure that—

a. ALSE commensurate with the mission and the operational environment is available on the aircraft and that aircrewmembers and passengers are briefed on its location and use? (AR 95-3, para 7-1k)

b. There are installed seats and seatbelts for each occupant on board the aircraft? (AR 95-1, para 3-13)

c. Each occupant is in a seat, can operate the provided restraining system, and is using the complete system (including shoulder harness, if provided) during takeoffs, landings, and turbulence? (AR 95-1, para 3-13)

d. Other crewmembers wear approved restraining harnesses instead of seatbelts when required by the mission? (AR 95-1, para 3-13)

9. Does each pilot and copilot wear properly adjusted seatbelts and shoulder harnesses when at the controls? (AR 95-1, para 3-13)

10. Is the following Army-approved clothing and equipment worn by all crewmembers when performing crew duties: leather boots; flight helmets; flight suits; flight gloves; cotton, wool, or nomex underwear; and identification tags? (AR 95-1, para 3-11)

11. Are all approved flight helmets routinely inspected for proper fit and serviceability by unit ALSE technicians? (FM 1-302) Is the fitting and use of ALSE by aircrew personnel being monitored by flight surgeons and aeromedical advisors? (AR 95-3, para 7-1g)

a. Are all deficiencies, shortcomings, and corrective actions being properly recorded? (TM 10-8415-206-12&P)

b. Are replacement parts on hand or on requisition? (FM 1-508, appendix B)

c. Are helmets marked with flight crewmembers' names to assist in the ALSE retrieval program? (DA Pam 385-95, paras 5-4c(5)(c) and (6))

12. Are procedures established to conduct required monthly preventive maintenance checks for AN/PRC-90 survival radios? (TM 11-5820-800-13&P)

13. Does the ASO monitor unit ALSE and related survival training programs? (AR 385-95, para 1-6c(18)) Are both ALSE and survival training documented? (AR 95-3, para 7-9)

14. Does the ALSE shop have an adequate and updated SOP? (AR 385-95, para 1-6a(4)(d))

15. If a wall status chart is used, does it agree with equipment and personnel records? (FM 1-508, figure 3-3)

16. Does the ALSE shop have an adequate system for control of ALSE? (DA Pam 710-2-1; AR 735-5; AR 190-51)

17. Does the ALSE maintenance shop provide adequate, clean, and well-lighted work areas with proper storage, shelving, and security provisions? (AR 95-3, para 7-3a)

18. Does the ALSE shop have an appropriate fire extinguisher? (TM 55-1500-204-25/1)

19. Are Class C, Type 3 or 4 (according to local fire policies) explosives signs posted on the ALSE door, on each corner of the building, and on the cabinet where pyrotechnics are stored? (TM 9-1300-206; AR 190-11; AR 385-64)

20. Is a stainless steel sink, with hot and cold water, available for cleaning oxygen equipment? (TM 55-1660-245-13)

Section 4

POL Facilities and Operations

1. Record keeping.

a. Do fuel sample records show dates when fuel samples were taken and the results of analyses? (FM 10-71, paras 1-18 and 4-20)

b. Are records of micronic filter differential pressure of fuel servicing equipment on file? (FM 10-71, paras 1-18 and 4-20; FM 10-68, chapter 2)

c. Are tank vehicle operator's daily inspection checklists on file? (FM 10-71, para 8-11)

d. Do files indicate that required vehicle/FARE maintenance and inspection tasks have been accomplished?

e. Are records kept of tank vehicle and FARE filter changes? (FM 10-68, chapter 2)

f. Is a log maintained of permanent and semipermanent airfield grounding points to identify each rod, the date tested, and the ohms reading? (FM 10-68, chapter 7)

2. Training.

a. Has an ongoing training program been established to train and refresh POL personnel on various aspects of POL operations? (FM 10-68, chapter 5, section II, and chapter 11)

(1) Are records maintained on personnel who have completed a course of instruction on tank vehicle driving? (DA Pam 738-750; AR 385-95, para 1-6b(6); FM 1-300, para 4-3a)

(2) Does the training program include the following? (FM 1-300, para 4-3a)

(a) Quality requirements for aviation fuel?

(b) Dangers of fire?

(c) Precautions against and control of fuel spills?

(d) Firefighting techniques?

(e) Vehicle and FARE pre-operational checks required and how to accomplish and document them?

(f) Protective clothing requirements and purposes?

(g) Sampling and testing procedures and equipment?

(h) Vehicle and FARE operations?

(i) Training in contingency plans for each duty position and each section; i.e., pre-accident plan, firefighting plan, and spill contingency plan?

b. Are refueling personnel prohibited from carrying ignition sources? (FM 10-68, chapter 7; FM 10-69, page 10-2; FM 10-71, para 8-3)

c. Do refueling personnel prohibit other personnel from carrying ignition sources within 50 feet of aircraft being refueled? (FM 10-68, chapter 7)

d. Do refueling personnel properly wear required protective clothing? (FM 10-68, chapter 9)

e. Do refueling personnel know procedures to take in the event fuel spills on their clothes? (FM 10-68, chapter 7)

3. Tank vehicle operations.

a. Pre-operational checks.

(1) Is fuel in the refueler sampled and tested daily for water? (FM 10-68, chapter 2)

(2) Do refueling personnel know how to properly perform the aqua-glo test; e.g., do they know the maximum allowable water reading and what action to take should the test exceed that limit? (FM 10-68, chapter 2)

(3) Do fuel handlers use the preventive maintenance chart in FM 10-71? (FM 10-71, para 8-11)

b. Tank vehicle maintenance.

(1) Are filter elements in filter separators on refueling vehicles changed as required? (FM 10-68, chapter 2)

(2) Is the date of filter change marked on the filter housing? (FM 10-68, chapter 2)

(3) Are refueling vehicles properly marked for tactical and public highway use IAW FM 10-68, chapter 5?

(4) Are required fire extinguishers mounted on refueling vehicles? (appropriate vehicle operator's manual)

c. Operational requirements.

(1) Have tank-vehicle drivers completed a course in tank-vehicle driving? (FM 10-68, chapter 5, section II)

(2) Are vehicle chocks carried on refueling vehicles and used during refueling operations? (FM 10-68, chapter 5)

(3) Are tank-vehicle operators knowledgeable of and do they perform proper grounding procedures when loading, unloading, or transferring fuel? (FM 10-68, chapter 5)

4. POL storage areas.

a. Are POL storage areas properly maintained and regularly inspected? (FM 10-69, chapter 13, sections I and III)

b. Does the POL storage area have adequate dikes, if applicable? (FM 10-69, pages 11-6 and 11-8; TM 5-678, para 13e(1))

c. Is only explosion-proof electrical equipment used where flammable vapors are present? (FM 10-69, page 9-6 and table 9-1)

d. Are explosion-proof lights used in areas where POL products are stored? (FM 10-69, table 9-1; FM 10-70, page vi)

e. Are adequate fire extinguishers available? (FM 10-68, para 8-11d; FM 10-69, page 10-11; FM 10-71, page vi and para 8-3)

f. Are "No Smoking" signs prominently displayed? (FM 10-71, page vi and para 8-3; FM 10-68, page 9-4)

g. Are packaged POL products received, marked, and stored properly, to include the following:

(1) Are packaged POL products inspected at the time of receipt for damage, leaks, improper or illegible markings, or any other evidence of incorrect packing or shipping? (FM 10-69, chapter 15; MIL-HDBK-200F)

(2) Are packaged POL products stored by product, date of pack, and batch or lot number so that the oldest can be issued first? (FM 10-69, chapter 15; MIL-HDBK-200F)

(3) Are containers smaller than 55-gallon drums stored under cover, preferably in warehouses or sheds? If stored under tarpaulins, are the containers stored off the ground on pallets or dunnage? (FM 10-69, page 15-6; MIL-HDBK-200-1)

(4) Are filled 55-gallon drums or 5-gallon cans stacked properly when not under cover? (FM 10-69, chapter 15, section I)

(5) Are the following markings on all packaged POL products? (MIL-HDBK-200F)

(a) Product designation _____

(b) Origin and age _____

(c) Hazards associated with use/handling _____

h. Waste POL.

(1) Is waste POL collected, segregated, labeled, and protected to avoid contamination?
(AR 200-1; AR 703-1)

(2) Are POL products, new or waste, used in a manner that prevents contamination of
land and water? (AR 200-1)

i. Spilled POL.

(1) Does the POL facility have a spill contingency and countermeasure plan (SCCP) and
an installation spill contingency plan (ISCP) as appropriate? (AR 200-1)

(2) Has the ISCP been reviewed and evaluated within the last 3 years? (AR 200-1)

(3) Has the ISCP been simulated annually? (AR 200-1)

5. POL service area.

a. Are POL service areas located the proper distance from buildings, parked or operating
aircraft, and vehicles? (FM 10-68, chapter 5)

b. Are aircraft tiedown anchors free of debris if used as refueling ground points? (TM 5-678,
para 31e)

c. Are grounding rods installed at each refueling point? (FM 10-68, chapter 7; FM 10-71, para 8-4)

d. Was the electrical resistance of each permanent and semipermanent airfield ground point used in the POL service area tested when installed and retested annually or when damaged? (FM 10-68, chapter 7)

6. Firefighting plan.

a. Has a firefighting plan (FFP) been developed? (FM 10-69, chapter 9, section III)

b. Does the FFP include proper placement of fire extinguishers? (FM 10-69, page 9-10)

c. Does the FFP include training of personnel to form a firefighting team? (FM 10-69, page 9-10)

d. Does the FFP include evacuation routes for vehicles and personnel? (FM 10-69, page 9-10)

e. Does the FFP include fire drills? (FM 10-69, page 9-10)

7. Does the unit SOP prohibit completely filling 600-gallon fuel pods mounted on M105 trailers to prevent overloading and increasing the likelihood of rolling the trailer? (*PS Magazine*, June 1983; TACOM Msg DRSTA-MVA, 211530Z Oct 82; TB 43-0001-39-6, Jul 81, para 2-16)

8. Forward area refueling equipment.

a. Are sufficient personnel assigned, trained, and available to man the equipment (one to tend pump and one to tend each nozzle)? (FM 10-68, page 4-13)

b. Equipment.

(1) Safety.

(a) Are the required number of fire extinguishers present (one for pump/filter separator and one for each nozzle)? (FM 10-68, pages 4-4 and 4-10)

(b) Do fire extinguishers meet necessary requirements? (FM 10-68, page 4-4)

(c) Do refueling/POL personnel wear protective clothing properly? (FM 10-68, page 9-2)

(d) Is sufficient water or a water source available to wash spilled fuel from personnel or to wet fuel-soaked clothing before removal? (FM 10-68, page 7-11) NOTE: For flight lines located away from a water source, consider placing a 5-gallon container of water near waste fuel sample disposal containers. Ensure that the appropriate container for water is used and that it is not used as a alternate waste fuel disposal container.

(2) Grounding rods.

(a) Are grounding rods being used at pump/filter separator locations and at each nozzle? (FM 10-68, page 4-7)

(b) Do grounding rods conform to specifications listed in FM 10-68, chapter 7?

(3) Nozzles.

(a) Does each nozzle have the proper ground cable, handling wire, and dust cover attached? (FM 10-68, chapter 3)

(b) Are both closed-circuit and open-port nozzles available for use? (FM 10-68, page 4-2)

(4) Hoses.

(a) Are dispensing hoses long enough to allow for minimum distance between aircraft? (FM 10-68, figures 4-2 and 4-3 and chapter 4)

(b) Are hoses regularly inspected for blisters, saturation, nicks, cuts, etc.? (FM 10-68, page 4-12)

c. Refueling area.

(1) Does the unit have a system that ensures the site is of adequate size for the operation? If so, is there evidence that the system is effective? (FM 10-68, page 4-5)

(2) Do POL personnel clear the area of loose sticks and other FOD-producing material prior to aircraft arrival? (FM 10-68, page 4-7)

(3) Have berms been constructed (when appropriate) around fuel bladders to contain fuel in case of rupture (for temporary and semipermanent systems)? (FM 10-68, page 4-34)

(4) Are the following signs posted? (FM 10-68, page 9-4)

(a) No smoking _____

(b) Passenger marshaling area _____

(c) Restricted area _____

(d) Alarm _____

(e) Emergency shutoff _____

d. Pre-operational checks.

(1) Has a fuel sample been taken from each dispensing nozzle? (FM 10-68, page 4-13)

(2) Has a fuel sample been taken from each fuel source? (FM 10-68, page 2-4)

(3) Is there a procedure in effect to ensure the complete system is checked for proper operation before the first aircraft arrives for fuel; i.e., pump, hoses, couplings, etc.? Does the procedure appear to be effective? (FM 10-68, pages 4-10 and 4-34)

e. Flight operations.

(1) Do aircraft approach, land, and depart (as terrain permits) into the wind? (FM 10-68, chapter 4)

(2) Is an air traffic controller or some other reasonably trained person available at each refueling site? (FM 10-68, chapter 8)

(3) Do personnel controlling air traffic in and around the refuel point have two-way radio communication with aircraft? (FM 10-68, chapter 8)

f. Night operations.

(1) Does the unit have and use the proper equipment for the type of night refueling operation being conducted; i.e., NVG operations?

(2) Are POL personnel properly trained in the type of night operations they are required to perform?

1. Do unit pilots-in-command (PCs) ensure that—

a. Each occupant is in a seat, can operate the restraint system, and is using the system during takeoffs, landings, and turbulence? (AR 95-1, para 3-13)

b. Aircrews acquaint themselves with the mission, procedures, and rules routinely and properly as part of the preflight? (AR 95-1, para 5-2)

c. Aircraft fuel tank is checked for contaminants, by sampling, before flight? (FM 10-68, page 2-5)

d. Crewmembers are using checklists during all operations? (AR 95-1, para 2-5)

e. Flight and ground crews who participate in aircraft refueling operations are familiar with the safety hazards associated with refuel operations? (FM 10-69, chapter 9)

f. All crewmembers and passengers are briefed on items that may affect their operational responsibilities, their personal safety, or the safety of the mission? (AR 95-1, para 4-6a(6); appropriate operators manual)

g. A fireguard is used for all engine starts per applicable -10 manual?

h. All loose equipment (i.e, toolboxes) is properly secured before takeoff? Is equipment stowed under seats that are occupied?

2. Required equipment.

a. Are the required number of first aid kits in the aircraft? (AR 95-3, para 7-4; appropriate operator and technical manual; SB 8-75)

b. Are the required number of fire extinguishers in the aircraft? (AR 95-3, para 7-4; appropriate operator and technical manuals)

c. Is an operators manual (-10) and -10 checklist in the aircraft? (AR 95-1, paras 2-5 and 4-17; DA Pam 738-750)

3. Aircraft ground operations and parking areas.

a. Are ground guides used when required (e.g., when aircraft are maneuvering close to other aircraft, buildings, or other obstructions and in gusty or high winds)? (FM 1-300, para 3-5j(3); FM 21-60, chapter 5)

b. Are proper hand signals used by ground guides for taxiing and parking aircraft? (FM 1-300, appendix F; FM 21-60, chapter 5)

c. Is aircraft lighting IAW regulatory requirements? Are night vision device lighting requirements clearly defined and authorized by the unit commander in unit SOP or training mission orders? (AR 95-1, para 5-3; AR 95-3, para 2-5)

d. Are aircraft grounded for fueling, arming, oxygen servicing, and loading or unloading of explosive cargo? (AR 95-1, para 3-4e; AR 55-203; FM 1-500, appendix F)

e. Have the following parking and mooring requirements been met?

(1) Aircraft are parked or moored at intervals no closer than wing or rotor span?

(2) Aircraft are moored according to instructions in the applicable technical manual when parked overnight or during adverse weather conditions?

f. Are personnel wearing adequate hearing protection on the flight line? (AR 40-5, para 5-16b(9)(i))

g. Are nonaviator personnel who operate aircraft properly trained, evaluated for qualifications, and authorized in writing to do so? (AR 95-1, paras 2-2 and 3-17)

Section 6

Aircraft Crash Rescue

1. Are rescue and firefighting facilities and equipment adequate to cope with any emergency that might reasonably be expected to occur? (AR 420-90, para 5-6)

2. Are firetrucks manned by qualified civilian personnel or military personnel having the qualifying MOS? (AR 420-90, para 5-4b)

3. Can equipment readily reach all portions of the field and move off the field (through gates, etc.) for off-field emergencies? (AR 420-90, paras 5-10a(2) and 5-11b)

4. Is the correct number of properly equipped ambulances and crews on duty during operational or training flying hours and capable of providing timely emergency protective services for flight activities? (AR 420-90, para 5-3b; FM 1-300, para 3-3d)

5. Preaccident plan.

a. Is it functional and effective? (AR 385-95, paras 1-6c(5), 1-6j(7) and (8); AR 420-90, para 1-5c(7))

b. Does it contain procedures for and designate responsibilities of the following? (AR 95-5, appendix C-15b and c; AR 420-90, para 5-5)

(1) Primary alarm system.

(a) Flight operations _____

(b) Control tower _____

(c) Crash fire station _____

(d) Ambulance station _____

(e) Helicopter ambulance crew _____

(f) Special crash rescue crew (when required) _____

(2) Secondary alarm system.

- (a) Airfield or post fire department _____
- (b) Aviation safety officer _____
- (c) Flight surgeon _____
- (d) Provost marshal _____
- (e) Aviation maintenance officer _____
- (f) Transportation officer _____
- (g) Public affairs officer _____
- (h) Personnel officer _____
- (i) Post engineer _____
- (j) Airfield weather officer _____
- (k) Installation safety officer _____
- (l) Accident investigation board (or USASC for class A-B) _____
- (m) Anyone else deemed necessary by the command to conduct the appropriate accident investigation _____

c. Has a plan been developed for manning reserve apparatus and calling off-duty personnel for handling unusual emergencies? (AR 420-90, para 5-1b)

d. Is there an off-airfield (over 15 miles) plan?

e. Are the responsibilities for supervision of rescue and firefighting activities clearly defined in the pre-accident plan and/or SOPs as applicable? (AR 385-95, appendix C-15b(3); TM 5-315, para 1-7)

6. Equipment.

a. Are all fire and rescue vehicles properly marked? (AR 58-1, para 9-6; MIL-STD-1223)

b. Is emergency equipment, with trained operators, available when and where required? (AR 420-90, paras 5-1 and 5-6)

c. Are fire extinguishers listed for use on POL and electrical fires (class B and C) provided on or near aircraft parking and refueling areas? (AR 420-90, para 7-11b)

d. Ambulances.

(1) Are sufficient numbers of ambulances assigned for crash rescue? (AR 490-20, para 5-3b; FM 1-300, para 3-3d(1)(b))

(2) Are they properly maintained? (appropriate operator's manual)

(3) Are they suitable for off-road operations; i.e., four-wheel drive, high clearance, etc.?

e. Are grid maps of appropriate scale identical to those in the tower and operations carried in all crash-rescue vehicles? (AR 420-90, para 5-11; AR 385-95, appendix C-15a(4); TM 5-315, para 5-23; FM 1-300, para 3-3g(1)(b))

9. Training.

a. Are aircrews briefed by crash-rescue personnel on what they might expect rescue crews to do for them in the event of a mishap; i.e., firefighting capabilities, rescue equipment, hoisting capabilities, rescue personnel, etc.?

b. How often are simulated crash-rescue drills performed? (AR 420-90, para 3-6; AR 385-95, para 1-6j(8); FM 10-68, page 11-2) Is an after-action report maintained noting problems, observations, and recommendations? AR 385-95, para 1-5b(6) Are crash-rescue drills performed in the field?

c. Are aircraft rescue and firefighting personnel cross-trained in first aid? (AR 420-90, para 3-4b(2))

d. Are operations personnel and emergency-vehicle drivers familiar with the use of crash grid maps? (AR 420-90, para 5-11)

e. Do ambulance crews know how to operate all their equipment? (FM 1-300, paras 3-3e(1)(b) and (3)(d))

f. Firefighter training.

(1) Does each firefighter take part in crash, fire, and rescue (CFR) exercises for each mission-assigned aircraft quarterly, with at least one realistic crew extraction exercise conducted during darkness for each mission-assigned aircraft annually? (AR 420-90, para 3-6)

(2) Are firefighters thoroughly familiar with the following? (TM 5-315, chapter 5)

(a) Visual identification of various types of aircraft? _____

(b) Location of personnel and aircraft entrance points and method of releasing doors, hatches, and restraining devices? _____

(c) Fuel tank locations and capacities? _____

(d) Oil tanks, hydraulic reservoirs, and anti-icing reservoir locations and capacities? _____

(e) Battery locations? _____

(f) Oxygen cylinder locations? _____

(g) Basic features of ejection seat, its operation, and precautions necessary to prevent accidental ejection? _____

(h) Preservation of evidence that could possibly aid in determining cause of the accident? _____

8. Does the emergency communications system consist of the following? (AR 420-90, para 4-6a; TM 5-315, para 1-21; FM 10-68, page 10-8; FM 1-300, para 3-3c(2)(a))

a. Two-way radio communication between—

(1) Control tower, fire station, alarm desk, firetrucks, and ambulances?

(2) Control tower and rescue aircraft?

b. Provision at a communications control center (control tower or fire station) for monitoring air-tower communications and for relay thereof to mobile units?

c. Direct emergency wire intercommunication between the control center and the fixed control stations for firetrucks, rescue aircraft, and ambulances?

d. Secondary emergency telephone or similar wired system, as required, between the communications control center and essential supporting and related administrative activity groups in a, b, and c above? (AR 385-95, appendix C)

e. Is the primary crash alarm system being tested daily? (AR 385-95, appendix C)

f. Is a daily log kept of the test of the primary crash alarm system?

9. Is the emergency alarm system adequate and checked frequently for operation? (TM 5-315, para 1-24b)

10. Is there a helicopter ambulance and crew on standby? If so—

a. Does the crew include a medical corpsman? (FM 1-300, para 3-3d(2))

b. Is provision made for backup?

c. Are rescue aircraft equipped with rescue equipment tailored to the specific geographic area of operation? (FM 1-300, para 3-3d(2))

11. Explosive ordnance disposal (EOD).

a. Are EOD personnel available for crash-rescue involving armed aircraft and/or aircraft with in-flight escape systems? (AR 420-90, para 5-5c(6))

b. Is there a procedure for notification of the EOD team? (FM 1-300, para 3-3b(3)(f))

12. Local/civil authorities.

a. Have copies of Joint Service Booklet No. 1, "What to Do and How to Report Military Aircraft Accidents," been distributed to local authorities? (Copies available from the U.S. Army Safety Center, ATTN: CSSC-M, Fort Rucker, AL 36362-5363)

b. Have plans been made to secure the cooperation of civil authorities for emergencies occurring off post? (FM 1-300, para 3-3g(4))

13. Are aircraft accident emergency teams composed of the three groups of personnel prescribed in AR 420-90? (AR 420-90, para 5-5)

14. Are firetruck crews instructed to stand by while rescue aircraft are landing or taking off? (AR 420-90, para 5-9b(3))

15. Is there a crash-rescue plan for combat assaults and field locations? (AR 420-90, para 5-1b; FM 1-300, para 6-3a)

16. Is the crash-rescue publications reference library current and readily accessible to all crash-rescue personnel, and does it, as a minimum, include the following? (AR 420-90, para 2-7, and appendix A, section I)

- a. AR 385-95 _____
- b. AR 420-90 _____
- c. FM 10-68 _____
- d. TM 5-315 _____
- e. Air Force Technical Manual (T.O.) 00-105E-9 _____
- f. International Fire Service Training Association (IFSTA) Manual 206 _____
- h. National Fire Protection Association (NFPA) Standard 402 _____
- i. NFPA Standard 403 _____

Part I - Standardization

1. Does the commander ensure the following? (AR 95-3, para 4-12)

a. The implementation of Army standardization policies and procedures?

b. That Army aircraft are operated IAW standard procedures in the appropriate ATM and operators manual?

c. Instructor pilots, standardization instructor pilot, instrument flight examiner, and maintenance evaluators are designated in support of installation standardization committees?

d. Ensure the completion of required training and evaluations?

e. Review and approve standardization policies?

2. Records.

a. Does the commander ensure that an Individual Aircrew Training Folder (IATF) is established for each aviator, flight surgeon, and crewmember in an operational aviation position and for nonrated crewmembers in designated flying positions? (TC 1-210, para 3-19a; AR 95-3, para 2-8)

b. Does the commander ensure that IATFs are maintained IAW the aircrew training program and commander's guide? (TC 1-210, para 3-19a)

c. Does the commander ensure that each crewmember presents his Individual Flight Records Folder (IFRF) and IATF to the appropriate unit within 14 working days after reporting for duty? (TC 1-210, para 3-19a(2); AR 95-1, para 2-8)

d. Does the commander ensure the proper disposition of IFRFs and IATFs after an individual's release from active duty? (TC 1-210, para 3-19b)

e. Are DA Forms 759 being completed IAW published guidance? (FM 1-300, chapters 7 and 8)

f. Are the appropriate remarks being entered on the DA Form 759 at closeout? (FM 1-300, chapters 7 and 8)

g. Do all assigned/attached aviation personnel have a current DA Form 4186: Medical Recommendation for Flying Duty in the IFRF? (FM 1-300, para 7-2)

h. Are all DA Forms 4186 signed by the commander?

i. Are nonrated crewmembers properly logging flight time for pay purposes IAW regulatory requirements? (AR 600-106, section II)

3. Aircrew reading file.

a. Has the commander established and maintained an aircrew training and information reading file for all assigned/attached aircrew personnel? (AR 95-3, para 4-1)

b. Are aircrew reading files read and initialed by all crewmembers whenever new material is added (or at least quarterly)? (TC 1-210, para 3-12a(2); AR 385-95, para 1-6j(6))

4. Aircrew qualification and selection.

a. Has the commander established, in writing, a formal crew qualification and selection program? (AR 95-3, para 4-17)

b. Does the program contain qualification, selection, and evaluation methods for aircrewmembers? (AR 95-3, para 4-17)

c. Does the program designate, in writing, aviator duties and flight crew stations at which aviators are authorized to fly? (AR 95-3, para 4-17)

d. Are flight crewmembers selected to occupy specific flight crew stations by the aviation unit chain of command in accordance with AR 95-1, paragraph 4-5b?

e. Are aircrewmembers evaluated during APART in each flight crew station they are authorized to fly in accordance with AR 95-1, paragraph 4-5d?

5. Aircrew mission briefings.

a. Are flight crews selected to occupy specific flight crew stations by the unit chain of command for each flight or series of flight? (AR 95-1, para 4-5b)

b. Are pilots-in-command briefed by a commander-designated briefing officer before each mission and then required to brief back key mission elements? (AR 95-1, para 4-6a(7))

c. Are all mandatory items being briefed and recorded by commander-designated briefing officers on the aircrew mission briefing prior to each mission? (AR 95-1, para 4-6a) Is a risk assessment formally accomplished? (AR 385-95, para 1-6j(2))

d. If locally developed mission briefing forms are used, do they contain all mandatory items? Why are locally developed mission briefing forms used instead of DA Form 5484-R? Are mission briefing forms supplemented with a formal risk-assessment sheet? If so, is it used for highlighting potential problem areas and to support active risk management, or is it simply a "number crunching" activity with no real meaning within the unit? (AR 385-95, paras 1-6a(4)(v) and 1-6j(2))

e. Are mission briefing forms maintained in unit files for at least 30 days? (AR 95-1, para 4-6a(7))

f. If briefing officers outside the chain of command are used, are they designated in writing by a commander (LTC and above)? (AR 95-3, para 2-7)

g. Are briefing officers selected based on experience and level of responsibility in the unit, and is the number of designated briefing officers limited to the minimum number needed to meet operational requirements? (AR 95-3, para 2-7)

Part II - Aircrew Training Program
(AR 385-95, para 1-6a(8); AR 95-3, chapter 4, section I)

1. Has the commander designated a flight activity category (FAC) level for each duty position in the unit based on probable employment roles? (TC 1-210, para 3-1d(2))

2. Task list. (TC 1-210, para 3-1)

a. Has a task list been developed for each duty position based on the commander's analysis of unit missions? (TC 1-210, para 3-1d)

b. Does the commander's task list contain the minimum items specified in TC 1-210 and annotate all Aircrew Training Program (ATP) requirements for a crewmember?

c. Does the commander's task list specify task iterations based on individual crewmember proficiency?

d. Has the commander developed and included additional tasks required by the unit mission but not listed in the appropriate ATM?

e. Does the commander's task list include tasks that ensure proficiency in aided and unaided night flight?

f. Does the commander's task list specify annual NBC training requirements?

g. Does the commander's task list specify special/additional tasks that are mandatory for evaluation?

3. No-notice evaluation program. (TC 1-210, para 2-4)

a. Has the commander established an active no-notice evaluation program? (Evaluations may be flight, oral, or written and may be administered individually or collectively.)

b. Has the ATP been adjusted to correct deficiencies noted during no-notice evaluations?

c. Are crewmembers who receive unsatisfactory no-notice evaluations processed in accordance with AR 95-3?

4. Readiness level (RL) progression. (TC 1-210, para 2-5)

a. Is RL progression completed within the specified time interval?

b. Before progressing to RL1, do crewmembers demonstrate proficiency in all base tasks specified by the appropriate ATM and commander-designated special/additional tasks?

c. Do crewmembers demonstrate proficiency in tasks specified by the appropriate ATM during unaided night flight during RL progression?

d. If 12 months have elapsed since an aviator's last evaluation by an instrument flight examiner, are the appropriate instrument tasks evaluated by an IFE?

e. Has the aviator completed the annual writ for the training year prior to progression to RL1? (AR 95-3, para 4-19)

5. Do RL1 aviators complete all components of the Annual Proficiency and Readiness Test (APART) during their designated APART period or designated quarter? (AR 95-3, para 4-5)

6. Does the commander investigate and take appropriate action when ATP requirements are not completed? (AR 95-3, para 4-6)

7. Has the commander developed training scenarios that enable crewmembers to accomplish unit-mission and individual requirements at the same time? (TC 1-210, para 4-4a)

8. Additional training requirements. (TC 1-210, section III)

a. Does the commander ensure that crewmembers complete local-area orientations before their first flight in RL1 status? (TC 1-210, para 3-12)

b. Do crewmembers receive ejection-seat training prior to flight aboard aircraft equipped with ejection seats? (AR 95-3, para 7-9; TC 1-210, para 3-13)

c. Do commanders conduct appropriate aeromedical training? (TC 1-210, para 3-14a)

d. Do commanders conduct low-pressure, high-altitude qualification training for crewmembers performing missions above 10,000 feet pressure altitude? (TC 1-210, para 3-14b)

e. Is NBC training mandatory for all FAC 1 and those FAC 2 positions selected by the commander? (TC 1-210, para 3-15a(1)(b))

f. Environmental training.

(1) If operating in unique environmental conditions, has the commander developed an SOP showing the effects of the unique environment on flight operations? (AR 385-95, para 1-6a(4)(z); TC 1-210, para 3-16a(1))

(2) Does the commander require newly assigned crewmembers to undergo unit-level, environment-unique training? (TC 1-210, para 3-16a(2))

(3) Does the commander require crewmembers to demonstrate to an IP their proficiency in planning and performing flight in their unique environment? (TC 1-210, para 3-16a(3))

(4) Does the task list reflect appropriate special and additional tasks? (TC 1-210, para 3-16b)

9. Has the commander developed a program of HIRTA awareness within the unit?

10. Locally conducted aviator qualification course training program (OH-58).

a. Are all tasks being taught and evaluated during day, night, and instrument conditions?

b. Are qualification grade slips maintained in the IATF until appropriate annotations being made on the DA Form 759 close out?

11. Mission essential task list (METL).

a. Is the METL established based on the unit's mission?

b. Does the commander's special/additional task list support the unit's METL?

12. Waivers. (AR 95-3, para 4-7)

a. Has unit and individual waiver authority been reviewed?

b. Do waivers state the specific requirement waived?

Part I—Facility/Installation Operations

1. Are air traffic and airspace officers appointed in writing? (AR 95-50, chapter 1)

2. Has the installation commander prepared and published local flying rules? (AR 95-3, para 2-3)

3. Control of aircraft.

a. Are effective control measures established for all aircraft using the airfield/heliport and, if applicable, designated training areas? (AR 95-3, chapter 2; FM 1-300, chapter 2)

b. Is the control of aircraft traffic properly administered? (FM 1-300, para 2-2b)

4. If applicable, are clearance officers available at the airfield/heliport? (Local SOP)

5. Is the aircraft activity count (DA Form 3479-6R) sent to the U.S. Army Aeronautical Services Department? (AR 95-3, para 2-2g(3))

6. Operations officer.

a. Does the operations officer maintain liaison with weather officers, medical officers, maintenance officers, ASOs, and appropriate civil organizations? (FM 1-300, para 1-4)

b. Does the operations officer closely monitor tower and other flight control operations? (FM 1-300, para 1-4)

c. Is the airfield/heliport operations officer a member of the local installation planning board? (FM 1-300, para 1-3a(15)(d))

7. Operations personnel.

a. Are operations personnel knowledgeable about regulations and procedures governing flight operations? (FM 1-300, chapter 1)

b. Are operations personnel familiar with procedures required to operate and close training areas?

c. Do operations personnel know their required actions if an aircraft is overdue? (FM 1-300, paras 2-2b and 2-5)

d. Do operations personnel understand and follow administrative rules for airfield marking and lighting? (FM 1-300, para 3-4; AR 385-30; TM 5-823-4)

e. Are operations personnel knowledgeable of procedures for removal of frost, snow, and ice accumulations from aircraft? (FM 1-300, para 3-5f)

8. Are facility memoranda, letters of agreement, and operations letters prepared in the proper format? (FM 1-300, paras 1-5h, i, and j)

9. Does the installation operations office maintain the following?

a. Updated crash grid map. (AR 420-90, para 5-11a)

b. Complete, correct, and current preaccident plan. (AR 385-95, paras 1-6j(7) and (8); AR 420-90, para 5-1b)

c. Crash-rescue communication system (both primary and secondary). (AR 420-90, para 4-6b)

d. Runup/taxi orders for designated crewmembers. (AR 95-1, paras 2-2 and 3-17)

e. Flight planning room (in accordance with FM 1-300) containing the following: (FM 1-300, paras 2-6 and 5-6)

- (1) Blank DA Forms 2696 (OHR) _____
- (2) Blank flight plans _____
- (3) Blank DD Forms 365-4 _____
- (4) Blank PPC for installation aircraft _____
- (5) Current DOD FLIP _____
- (6) Local flying area map (100 nm coverage) _____
- (7) VFR traffic pattern chart _____
- (8) Current airfield diagram _____
- (9) Current NOE hazard map _____
- (10) Current NOTAM board _____
- (11) Safety bulletin board _____
- (12) Vertical helicopter instrument recovery plan _____
- (13) Noise abatement procedures _____
- (14) Clock showing Zulu time _____
- (15) Appropriate operators manuals _____
- (16) Local flight rules _____
- (17) Current Hazards Update Manual _____

10. Crash alarm.

a. Is an effective crash alarm system available? (AR 420-90, para 4-6; FM 1-300, para 3-3c)

b. Is the crash alarm communication system tested daily? (FM 1-300, para 6-3c)

c. Is a backup (alternate) system available?

11. Inspections and surveys.

a. Does the airfield commander and ASO conduct airfield safety inspections? (FM 1-300, para 6-2d; AR 385-95, paras 1-6a(3) and c(7))

b. Are airfield safety surveys performed quarterly in addition to daily spot inspections? (FM 1-300, para 3-5g)

c. Are the results, along with operations personnel input, used to identify equipment shortages and facilities inadequacies? If so, are effective countermeasures designed to resolve the problems? (AR 385-95, appendix C-4)

12. Maps.

a. Are current maps available for issue to pilots? (ATM; local SOP)

b. Are maps maintained in adequate quantities by establishing and monitoring a stock reorder level to eliminate the necessity for emergency replenishment action?

13. Flight plans.

a. Are all flight plans properly completed, to include those on file? (FM 1-300, para 2-4; DOD FLIP)

b. Do all flight plans include or are they accompanied by crew/passenger manifests of all occupants? (FM 1-300, para 2-4; DOD FLIP)

14. Are current aviation and safety publications available; i.e., *Flightfax*, *Aviation Digest*, etc.? (AR 385-95, para 1-6c(9); FM 1-300, para 5-6g)

15. Do personnel understand NOTAM procedures and related functions to be followed when operational deficiencies and NAVAID malfunctions require changes to minimums and coordination with adjacent ATC facilities? (AR 95-2, appendix C-2; TC 95-93, para 2-24)

16. Is an effective FOD program established? If so, does it include a plan for periodic sweeping of runways, taxiways, and ramp areas? (AR 385-95, chapter 3; FM 1-300, para 3-5e)

17. Is there an airfield snow and ice removal plan? (FM 1-300, para 3-5f)

18. Is there a designated area for loading, unloading, or parking aircraft carrying hazardous cargo? (FM 1-300, para 6-6)

19. Do airfield vehicles have the meaning of air traffic control light signals displayed on the dash? (FM 1-300, para 3-5h(1)(c))

20. Are signs erected denoting hazards, and are they correct?

21. Does the airfield operations officer maintain the following references? (FM 1-300, chapter 2)

a. FAA location identifier handbook _____

b. FAA Airman's Information Manual (AIM) _____

- c. Basic flight manual and ATC procedures (Part I) _____
- d. Airport directory (Part II) _____
- e. Operational data and notices to airmen (Part III) _____
- f. Graphic notices and supplemental data (Part IV) _____
- g. Latest FLIP material _____
- h. Appropriate aeronautical charts _____

Part II - Unit Operations

1. Do unit operations personnel maintain the following:

- a. An updated crash grid map? (AR 420-90, para 5-11; AR 385-95, appendix C-15a(4))

- b. A complete and correct preaccident plan for their unit? (AR 385-95, para 1-6j(7))

- c. A method to activate the crash-rescue system? (AR 420-90, para 4-6; FM 1-300, para 3-3c; AR 385-95, appendix C-15a(2))

- d. Runup/taxi orders for designated crewmembers? (AR 95-1, para 2-2 and para 3-17b)

- e. Blank DA Forms 2696 (OHR)? (AR 385-95, para 2-5b(2); FM 1-300, para 5-5g)

- f. Blank flight plans? (AR 95-1, para 5-2f; FM 1-300, paras 5-5a and b and 5-6e)

- g. If flight plans are to be filed in unit operations, is a complete flight planning area provided as required? (Part I of this section; FM 1-300, para 5-6) Is it as mobile as possible to support field operations? (FM 1-300, para 5-6i)

2. SOP.

a. Does the unit's SOP contain, as a minimum, those items required by AR 385-95? (AR 385-95, para 1-6a(4))

b. Does operations have a procedure to ensure that all personnel are aware of and comply with the unit's SOP? (AR 385-95, para 1-6a(6))

c. Are safety practices integrated into the SOP (both garrison and tactical SOPs, if applicable)?

3. Pilot-in-command.

a. Does the commander or his representative designate the pilot-in-command (PC) of each aircraft under his control before each flight or series of flights? (AR 95-1, paras 4-5a and b)

b. Is the PC designation reflected in the flight plan or in the unit's operations log? (AR 95-1, para 4-6a(5))

c. Does the unit commander or his representative designate an air mission commander for each formation or multiship flight? (AR 95-1, para 4-7)

4. Flight planning.

a. Do flight crews thoroughly plan flights, to include the following: (AR 95-1, chapter 5; appropriate ATM)

(1) Preflight? _____

(2) Weight and balance? (AR 95-1, para 5-2j) _____

(3) Performance planning card (PPC)? _____

(4) Flight plan? _____

b. Are flight plans filed for all flights? (AR 95-1, para 5-2f; DOD FLIP)

c. Are flight plans completed correctly? (FM 1-300, para 2-4; DOD FLIP)

d. Do operations personnel ensure weather is checked for all flights? (AR 95-1, para 5-2d; FM 1-300, para 2-4k)

5. Do PCs ensure all crewmembers and passengers receive a briefing before flight, to include, as a minimum, the location and operation of the following? (AR 95-1, para 4-6a(6); ATM; -10; local SOP)

a. Emergency exits.

b. Fire extinguishers.

c. First aid kits.

d. Survival equipment and survival radios. (AR 95-3, para 7-1k)

e. Land and/or water egress procedures.

f. Restraint systems. (AR 95-1, para 3-13a(2))

g. Crash positions.

6. Weight and balance.

a. Is a weight-and-balance technician appointed in writing? (AR 95-3, para 6-1c(3))

b. Are DD Forms 365-4—

(1) Available? (AR 95-3, para 6-4)

(2) Computed correctly for appropriate aircraft and loading configurations? (AR 95-3, para 6-4b(6)(d); ATM; -10)

(3) Previously filled out for similar loads and configurations? (AR 95-3, para 6-4b(6))

7. Crew rest.

a. Is a crew endurance program established and included in the unit SOP? (AR 95-3, para 3-12; AR 385-95, paras 1-6a(4)(n) and a(7))

b. How does the commander ensure that aviators and crewmembers comply with the unit's crew rest policy?

c. Is consideration given to the endurance of support personnel? If so, how is the concern formally addressed?

8. Is crew scheduling in compliance with appropriate -10s, ARs, and unit SOPs; i.e., two pilots or one pilot and one qualified observer during terrain flight, as appropriate? (FM 1-300, para 5-4; AR 385-95, para 1-6j(5))

9. Is the appropriate ALSE for the mission, type of area overflown, and climatic conditions available to crewmembers and passengers? (AR 95-3, para 7-1e)

10. Is a procedure established to ensure positive control of aircraft ignition keys? (AR 190-51, para 3-3f(1)(b) and appendix C)

11. Have corrective measures been made and followup actions taken on OHRs submitted? (AR 385-95, para 2-5)

12. Is the aircrew information reading file organized with current information? Is it read and initialed by all flight crewmembers? (AR 95-3, para 4-1; AR 385-95, para 1-6j(6); TC 1-210, para 3-12a)

13. How does the commander and safety manager ensure information concerning known local hazards is disseminated to all personnel in a timely manner?

14. Publications. (DA Pam 310 series)

a. Are appropriate publications and regulations on file and current?

b. Has unit operations updated its -12 series within the last 6 months?

c. Does the unit submit DA Form 4569 to obtain current editions of publications?

d. Has a followup procedure been established in accordance with DA Pam 310-10 for publications that have been ordered but have not been received within 60 days?

Part III - Night Vision Goggles

1. Are all aviators night vision goggle qualified? (DA Message 151852Z Mar 90) Are other crewmembers trained and qualified in NVGs as applicable and appropriate?

2. Have O6 commanders established NVG-designated position requirements?

3. Has the commander designated, in writing on the task list, the crewmember's 3-month NVG evaluation period? (DA message 281309Z Aug 91, subject: Night Vision Goggle Training Message 91-2)

4. Does the unit have an SOP/annex for NVG operations IAW AR 385-95, para 1-6a(4)(h)? If so, does it include at least the following? (TC 1-204, para D-8a; DA message 281309Z Aug 91, subject: Night Vision Goggle Training Message 91-2)

a. Minimum weather criteria?

b. Total illumination criteria?

c. Requirement for an operational additional light source for all NVG flights? (DA message 281309Z Aug 91, subject: Night Vision Goggle Training Message 91-2) (NOTE: An operational infrared band-pass filter/pink light modified search/landing light must be installed and operational before NVG operations are conducted.)

d. Minimum crew requirements (ATM, chapter 6)? Crew duties?

e. Standardized terminology?

f. Disorientation procedures?

g. Standardized radio configurations?

h. Care and security of NVGs?

i. Aided and unaided flight routes and requirements?

j. Emergency IMC/VHIRP procedures?

k. Special tactical operations such as multi-ship and FARP operations?

l. Authorized formations by mode of flight, formation lead changes, minimum personnel required, etc.? (TC 1-204, chapter 7)

m. Command and control procedures or cover aircraft requirements for aided and unaided night operations? (TC 1-204, D-3)

n. Requirement for individuals with access to flight controls to be using the same type aviation NVG? (DA message 081630Z Apr 87)

o. Requirement for single-helicopter UH-60, UH-1, and CH-47 NVG flights to use at least three NVG qualified and equipped crewmembers? (DA message 141433Z Jun 89, subject: UH-60, UH-1, and CH-47 Crew Requirement for Night Vision Device (NVG) Flights)

p. Designation of ground support personnel duties for NVG operations? (TC 95-93, para 3-19)

q. Training area/airfield maximum NVG aircraft density? (AR 95-2, para 9-2b(3); TC 1-204, figure D-2 and para 2f(2))

r. Crew endurance policy for NVG operations to include allowable flight time? (AR 95-3, para 3-12a; TC 1-204, para D-8a)

s. Establishment of NVG mission planning cells for multiship operations? (TC 1-204, para 6-9a(1); FC 1-219, para 4-2d (ATM Night Vision Goggles))

t. Nonrated crewmember training program?

5. Training. (TC 1-204, appendix D)

a. Does the installation/unit have an NVG qualification/training program? (TC 1-210; TC 1-204, appendix D)

b. If so, is this program, to include the ground school, being conducted IAW the USAAVNC NVG Exportable Training Package and appropriate aircrew training manuals? (TC 1-204, paras D-7d and 7e; appropriate ATM, chapters 5 and 6)

c. Is the requirement for 1-hour SFTS or static cockpit check conducted before NVG night flight IAW USAAVNC Exportable Training Package and appropriate aircrew training manuals? (DA message 281309Z Aug 91, NVG Training Message 91-2)

d. Documentation.

(1) Is NVG qualification recorded on the individual aviator's and nonaviator's DA Form 759? (FM 1-300, chapters 7 and 8)

(2) Are NVG flying hours being recorded on individual aviator and nonaviator DA Forms 759 and 759-1? (FM 1-300, chapters 7 and 8)

(3) Have crewmembers completed required NVG training within required time?

e. Is NVG currency being maintained IAW chapter 5 of appropriate ATM or ATM supplement? (TC 1-210, para 3-11b)

f. Are installation/unit NVG SIPs, IPs, and UTs on current orders? (AR 95-1, paras 4-10 (UT), 4-11b(IP), and 4-13b(SIP); TC 1-210, paras 3-7d(2)(d), 3-7e, and 3-7f; FC 1-219, paras 2-9b and 2-8)

g. Training area.

(1) Does the unit/installation have an approved NVG training area? (AR 95-2, para 9-2b; TC 1-204, figure D-1, para 3)

(2) Is an NVG terrain flight area established? If so, is there a hazard map maintained and updated for this area? Is it available to unit aviators? (TC 1-204, para D-3a) Is there a system to ensure it is updated as necessary?

6. Equipment.

a. Night vision goggles.

(1) Are NVGs maintained IAW appropriate operators manual? (TM 11-5855-238-10 and -20&P for AN/PVS and TM 11-5855-263-10 and -23&P for ANVIS)

(2) Have all NVGs been distortion tested? (AVSCOM msg 172225Z Mar 89, subj: Aviation NVG Operational Evaluation)

(3) Is distortion test properly conducted? (PM-NVEO msg 221530Z Mar 91)

(4) Are high/low light tests being properly conducted? (PM-NVEO msg 221530Z Mar 91)

(5) Are NVGs being purged IAW PM-NVEO msg 221530Z Mar 91? (Recommended every 90 days minimum, required every 6 months)

(6) Is proper documentation of services being kept on file? (PMCS, Services, and Distortion Test, AVSCOM msg 172225Z Mar 89; PM-NVEO msg 221530Z Mar 91)

(7) Are NVGs with modified faceplates properly modified? (PM-NVEO msg 221530Z Mar 91; 14 Feb 91 *Flightfax*)

b. Batteries.

(1) Are NVG batteries stored in accordance with manufacturer's guidelines? (Battery Disposition/Disposal Handbook, Nov 88; SB 11-6, para 6(a))

(2) Are NVG battery usage times recorded after each NVG operation for single battery use only IAW USAAVNC NVG Exportable Training Package?

(3) Are NVG batteries disposed of properly? (TM 11-5855-238-20&P; SB 11-6, para 7c)

c. Are aircraft used for NVG operations modified IAW appropriate NVG MWOs?
(AVSCOM msg 061200Z Oct 87)

NOTE: The Night Vision Device Branch, Aviation Training Brigade, ATTN: ATZQ-ATB-NS (NVDB), Fort Rucker, Alabama 36362-5218, has a checklist available that provides detailed information on NVGs and operations. A copy of this checklist can be obtained by contacting the NVDB. Additionally, they will download all current NVG messages on to a 5¼-inch floppy disk to be provided by the requestor.

NOTE: TM 5-803-4, paragraph 1-4b states: "These criteria are related to planning, designing, and construction programming. Dimensions and allowances given are considered to be optimum for new construction or upgrading existing facilities where feasible. They are not intended to obsolete existing facilities or to be used as safety minimums or to establish operational procedures." Therefore, references to TM 5-803-4 are provided only as a guide, a baseline for reference.

1. Are helipad, runway, and taxiway weight limitations compatible with assigned and transient aircraft? (TM 5-803-4, para 2-6)

2. Are construction (length, width, and gradient) and condition of runway shoulders adequate for stationed and/or transient aircraft? (TM 5-803-4, chapters 4 and 5)

3. Is lateral distance from the centerline clear to ensure maximum practical safety and mission accomplishment? (TM 5-803-4, chapters 4 and 5)

4. Is preparation and maintenance of clear zones in accordance with established criteria? (TM 5-803-4, figure 4-1)

5. Is the overrun in compliance with established standards? (TM 5-803-4, chapters 4 and 5)

6. Do clear zones provide room for aborted takeoffs from heliports? (TM 5-803-4, chapters 4 and 5)

7. Are area and airfield engineering drawings available? Do they reflect obstruction and slope data correctly? (TM 5-803-4, chapter 9 and appendix B)

8. Are there sufficient taxiways to satisfy all traffic requirements? (TM 5-803-4, chapter 7)

9. Is a dust problem created during hover or taxi operations? If so, see TM 5-330, chapter 13, for instructions.

10. Are aprons suitable for aircraft using the facility? (TM 5-803-4, chapters 3 and 7)

11. Are clearances from apron edges to obstacles in compliance with established criteria? (TM 5-803-4, chapter 7)

12. Do grades conform to established criteria? (TM 5-803-4, chapters 4, 5, and 7)

13. Are adequate parking areas provided? (TM 5-803-4, chapter 7)

14. Is adequate space provided for hover lanes, taxi lanes, and taxiway strips? (TM 5-803-4, chapter 7)

15. Are adequate tiedowns and grounding cables available? Are they properly spaced and marked in parking areas? (TM 5-803-4, para 7-1)

16. If possible, are observation, attack, utility, medium, and heavy helicopters and fixed wing aircraft provided separate parking aprons? (TM 5-803-4, para 7-3a)

17. Is drainage adequate? (TM 5-330, chapter 6, section 1)

18. Are trained personnel and adequate equipment available for short-notice snow and ice removal? (AR 420-72, para 2-12c)

19. Are runways and taxiways marked and clearly visible to provide maximum practical safety, to include night vision goggle operations? (TM 5-330, paras 12-17 and 12-18)

20. Is lighting adequate, both high and low side? (TM 5-330, paras 12-17 and 12-18)

21. Are centerlines and/or touchdown points painted or otherwise marked? (TM 5-330, para 12-17)

22. Has a plan been developed for protecting Army aircraft from severe storm and wind damage? (AR 385-95, paras 1-6a(4)(a) and (b))

23. What steps have been taken to rectify deficiencies (e.g., programmed for repair/correction during rebuild, put into engineer master construction plan for installation, etc.)?

Section 10

Aviation Medicine

1. Is the authorized number of flight surgeons assigned and on flight status? (AR 616-110, section 4, paras 11 and 13)

2. Does the flight surgeon maintain liaison and a good working relationship with—

a. The commander to provide staff advice on medical matters? (AR 616-110, para 12; AR 385-95, para 1-6f(14))

b. The ASO? (AR 385-95, para 1-6f)

3. Records.

a. Does the flight surgeon maintain health records on flight personnel? (AR 385-95, para 1-6f(7))

b. Are health records reviewed before granting a medical clearance to fly? (AR 40-501, para 8-24, section J)

c. Do individual flight records contain a medical clearance for flying, medical restrictions from flight duty, and/or medical waiver, as applicable? (AR 40-501, para 8-24, section J)

d. Is a record of the flight surgeon's flight time maintained? (AR 616-110, section 4, para 13)

4. Does the aviation medicine and safety system ensure the flight surgeon has a means of accomplishing and documenting (when applicable) the following? If so, does survey evidence indicate that it is an effective system?

a. Interview and review the records of newly assigned personnel before certifying that an individual is medically fit to perform Army aviation duties? (AR 40-501, para 8-24, section J)

b. Advise the commander when an aviator or an individual on flight status is not medically qualified to engage in aerial flight? (AR 40-8, para 3c; AR 40-501, para 8-24, section D)

c. Ensure that required prescription glasses are worn by aviation personnel for aviation duties? (AR 40-8, para 5)

d. Take part in and observe flight operations to monitor the interactions of crewmembers, aircraft, and environment? (AR 385-95, para 1-6f(2))

e. Become, through actual flight experience, familiar with the mission and tactics of the aviation unit, to include NVG and other high-stress flight activities? (AR 616-110, section 4, para 13; AR 385-95, paras 1-6f(2) and (10))

f. Participate in policy-making decisions regarding crew endurance? (AR 95-3, para 3-12)

g. Monitor the fitting, use, and serviceability of personal safety equipment? (AR 385-95, para 1-6f(12))

5. Is there a MEDDAC policy that automatically recommends grounding all aviators treated in the emergency room and/or specialty clinics, including dental? (AR 40-501, para 8-24, section J)

6. Is sick call held at convenient times for aviation personnel?

7. Is there a flight surgeon available or accessible during duty and nonduty hours?

8. Does the flight surgeon devote sufficient time to the aviation community he supports? (AR 616-110, section 4, para 12)

9. Wherever and whenever possible, has the flight surgeon instituted an aviation family practice program?

10. Are newly assigned flight surgeons oriented to the unit's mission and area of operations? (AR 616-110, section 4, paras 12 and 13)

11. Does the crewmember continuing education program include the following physiological effects of flight? (AR 40-8, para 3)

a. Hypoxia and oxygen use?

b. Disorientation?

c. Vision?

d. G-forces?

e. Self-medication?

f. First-aid and self-aid?

g. Physical fitness?

h. Alcohol and drug use/abuse?

12. Does the flight surgeon regularly attend and participate in safety council and enlisted safety council meetings? (AR 385-95, para 1-6f(11))

13. Is there a unified medical approach to the aviation accident prevention program? (AR 385-95)

14. Does the flight surgeon understand his role in accident investigation?

a. Does he understand his training responsibilities to the standing aircraft mishap investigation board; e.g., Forms 2397-9 and 2397-10 for Limited Use Accident Investigation Report? (DA Pam 385-95, para 2-3d)

b. Does he participate fully in investigations, deliberations, and drafting of recommendations? (AR 385-95, para 1-6f; AR 40-21, section 3)

15. Has the unit established a hearing conservation program in accordance with TB Med 501?

16. Does the medical portion of the preaccident plan provide the flight surgeon an opportunity to fulfill his responsibilities regarding aircraft accident investigation? (AR 385-95, para 1-6f(5) and appendix C-15c(2)(e))

17. Are autopsies performed on all aircrew fatalities and other fatalities as required? (AR 40-21, section 3d(1))

Section 11

Weather Facilities

1. Do pilots have current en route, destination, and alternate weather information before takeoff?

2. Is there, convenient to flight operations, a U.S. Air Force weather office or other satisfactory method of obtaining up-to-date weather? (AR 95-1, para 5-2d(7))

3. Are tenant units satisfied with the weather service provided? If not, what effort has been made for improvement? (AR 115-12, para 2-3)

4. Is information provided to operational units stationed on the airfield prominently displayed and used by the pilots? (FM 1-300, para 2-6c(5) and figure 2-16; FM 1-230, para 18-3 and figure 18-1; AFR 105-22; AFR 105-5)

5. Does the control tower maintain a "cooperative weather watch" and advise the Air Force Weather Service (AWS) observer of any differences between observed weather and that reported by the AWS when the weather may affect flight safety? (FM 1-200, chapter 3)

6. Do weather briefings for IFR flight adequately cover alternates and the best weather areas in the event of an en route emergency? (AR 95-1, para 5-2d; FM 1-230, chapter 18; AFR 105-5)

7. Are pilot reports (PIREPs) solicited and received? (FM 1-230, para 19-3)

8. Are PIREPs used in pilot briefings? (FM 1-230, para 19-3d(2) and appendix B-8b)

9. Are effective procedures established to disseminate severe weather warnings? (TC 95-93, paras 2-15b and 2-16)

10. Do local commanders establish policies specifying when DD Form 175-1 is required to be filed with DD Form 175? (AR 95-1, para 5-2d(7))

11. Is an emergency evacuation plan in effect for local environmental conditions and reasonably anticipated contingencies? (AR 95-87, para 3a)

12. Has a method been developed to obtain weather information from an alternate source (i.e., other than AWS) in a tactical environment? (AR 115-10, chapter 2)

13. Have procedures for operations under marginal weather conditions been established (e.g., special VFR)? Are they followed? (AR 95-1, paras 5-2d(4) and 5-5e)

14. Does the aviation commander use the staff weather officer for advice on weather support for aviation missions? (AR 115-10, para 1-9c(1); Air Weather Service Reg 105-9; AFR 105-9)

Section 12

Pathfinders

1. Are pathfinder or unit terminal guidance personnel available for mission accomplishment?
(FM 57-38, paras 1b, 7d, and 23)

2. Training.

a. Are pathfinders or unit terminal guidance (TG) personnel properly trained? (FM 57-38, para 7)

b. Is continuation training for pathfinder or TG personnel adequate to maintain proficiency?
(FM 57-38, para 7)

c. Do pathfinders/TG personnel train with both aviation and ground units? (FM 57-38, paras 7 and 21)

d. Do pathfinders/TG personnel display a thorough knowledge of voice radio procedures?
(FM 57-38, para 22)

e. Are pathfinders/TG personnel familiar with helicopter landing zone operations? (FM 57-38, para 30)

f. Are pathfinders/TG personnel trained in and used for the setup and operation of night landing equipment (e.g., inverted "Y")? (FM 57-38, para 29b(3))

3. Command responsibilities.

a. Are ground and air commanders familiar with the capabilities of pathfinder units? (FM 57-38, para 21) Are they familiar with the capabilities of Air Assault Course graduates?

b. Is there coordination between ground, air, and pathfinder/TG personnel commanders before pathfinder type operations? (FM 57-38, para 13)

c. Upon receipt of an order, do pathfinders or other appropriately trained personnel use the checklist for pathfinder type operations? (FM 57-38, appendix C, page 51)

d. What procedure is used to ensure that equipment is inspected upon receipt of a mission? Does it appear effective? (FM 57-38, para 12)

e. What has the commander done to ensure that pathfinders or other appropriately trained personnel check the weight, rigging, and positioning of all external loads to ensure aircraft safety? (FM 57-38, para 31)

Section 13

Maintenance Management

1. Does the unit have an adequate MTOE/MTDA for its mission? If not, has a recommended change to the MTOE/MTDA (DA Form 2028 addressing the appropriate MTOE/MTDA) been staffed through the chain of command (with a courtesy copy sent to U.S. Army Aviation Center, Organization/Force Development Division, ATTN: ATZQ-CDO-FD, Fort Rucker, AL 36362-5000 for those concerning aviation MTOE/MTDAs)?

2. Are all authorized positions filled with qualified personnel? (AR 750-1, appendix F)

3. Are there adequate SOPs covering all aspects of the unit's mission? (AR 385-95, para 1-6a(4))

4. Are all personnel aware of and complying with unit SOP? (AR 385-95, para 1-6a(6))

5. Are the following duties and positions designated in writing and current?

a. Start, runup, and taxi airplanes (nonaviator)? (AR 95-1, para 2-2)

b. Technical inspectors? (DA Pam 738-751, para 1-9e; FM 1-511)

c. Weight and balance technician? (AR 95-16, para 5)

d. Oil analysis monitor? (AR 750-1; TB 43-0106, para 6)

e. Test pilot? (TM 55-1500-328-25, para 3-3a)

f. Fire marshal and assistant fire marshal? (AR 420-90, para 6-2)

g. Controlled exchange authority? (FM 1-500, page 7-6; AR 750-1, para 3-7)

h. FOD officer? (AR 385-95, para 3-3)

6. Are there frequent technical assistance/maintenance assistance instruction team visits to subordinate units? From higher units? (FM 1-500, page 6-4)

7. Are personnel properly assigned in their primary or secondary MOS? (AR 600-200, para 3-4)

8. Are unqualified or inexperienced personnel receiving properly planned and documented on-the-job training (OJT)? (FM 1-500, page 5-23)

9. Is there an aviation safety bulletin board in the maintenance area? (TM 55-1500-204-25/1, para 7-8)

10. Do the shop foreman and maintenance officer emphasize accident avoidance measures in maintenance operations? (AR 385-95, para 1-6e; FM 1-500, page 6-10)

11. Is there a program in effect to encourage reporting of hazards, near accidents, unsafe shop practices, etc.? (AR 385-95, chapter 2)

12. Are supervisors aware of proper procedures for securing parts analyses for accident investigation purposes? (DA Pam 385-95, para 6-22)

13. Are weight and balance records complete, current, and properly maintained? (AR 95-16, para 9d)

14. Are controls established to preclude unauthorized cannibalization (controlled exchange)? (AR 750-1, para 3-7)

Section 14

Quality Assurance

1. Forms and records.

a. Are aircraft maintenance and flight forms and records properly filled out and filed? (DA Pam 738-751, chapters 2 and 3; local SOP; FM 1-511, page 3-3)

b. Are "red X" conditions properly signed off in the correct sequence by qualified supervisors or technical inspectors? (FM 738-751, paras 1-11 through 1-14)

c. Are maintenance operational checks (MOCs) and limited test flights conducted when required? (TM 55-1500-328-25, chapter 3)

d. Are completed test flight sheets attached to DA Form 2408-13 for that day's operation? (TM 55-1500-328-25, para 3-4)

e. Are HIT/TEAC check procedures being performed, and are they recorded on DA Forms 2408-13 and -15 and charts? (DA Pam 738-751, para 3-7 and figure 3-8; applicable -23 technical manuals; applicable -24 engine technical manuals)

f. Are aircraft forms and records screened to ensure that all work accomplished is reflected on forms and records? (appropriate phase book; preventive maintenance checklist; DA Forms 2404 and 2408-13)

g. Are all DA Forms 2408-13 retained in a maintenance organizational file for 6 months and then destroyed? (DA Pam 738-751, para 3-7i(4))

h. Are DA Forms 2408-16 (Aircraft Component Historical Record) checked carefully for accuracy to prevent overflying the replacement times for aircraft components and subcomponents? (DA Pam 738-751, para 3-10)

(1) Are TBO charts used to keep track of component replacement time? (FM 1-511, para 1-2)

(2) Are TBO charts kept current? (FM 1-511, para 1-2)

i. Are DA Forms 2408-17 (Aircraft Inventory Record) properly maintained? (DA Pam 738-751, para 3-11)

(1) Acceptance inventory?

(2) Reinventory upon addition or deletion of items from the aircraft?

(3) Reinventory annually?

(4) Are appropriate remarks made on the reverse side of the -17 when an item is short, added, or removed from the aircraft?

j. When DA Form 2407 is used to request or report accomplishment of a modification work order (MWO), is it disposed of in accordance with DA Pam 738-751, para 2-7(d)?

k. Does DA Form 1352-1 (Daily Aircraft Status Report) reflect the actual current status?
(AR 95-33, para 11 and table 4)

2. TWX files.

a. Does the unit maintain a safety-of-flight (SOF) TWX file? (FM 1-511, para 2-3)

b. Are separate SOF TWX files maintained for each model aircraft assigned or supported?
(FM 1-511, para 2-3)

c. Are TWX files for each aircraft further separated into two sections: safety-of-flight and
maintenance/technical advisory messages? (FM 1-511, para 2-3)

3. Calibration equipment and records.

a. Is equipment calibrated in the specified time intervals, and is it properly stored? (TB
43-180)

b. Are calibration records maintained by the unit and support activity? (TB 750-25, para
2-5c)

4. Are all assigned aircraft under the Army Oil Analysis Program? (AR 750-1, para 3-36; TB
43-0106)

a. Is the program functioning in accordance with appropriate regulations and directives?

b. Are crew and maintenance personnel knowledgeable of oil sampling procedures?

c. Are required records (DA Form 2408-20, DD Form 2026, and DA Form 3254R) being maintained?

5. Is the safety inspection and testing of lifting devices being monitored? (TB 43-0142)

a. Are forms and records maintained? (TB 43-0142)

b. Are items properly marked with load rating and next periodic inspection date? (TB 43-0142)

6. Does the unit actively participate in the submission of Quality Deficiency Reports (QDR)/Equipment Improvement Recommendations (EIR) using Standard Form 368? (DA Pam 738-751, para 2-15)

7. Are aircraft inspected in accordance with established aircraft maintenance procedures within the required inspection intervals? (TM 55-1500-328-25, para 2-1)

8. Do quality control personnel conduct in-progress inspections of products to assure reliability of complete assembly? (FM 1-511; FM 1-500, page 5-13)

9. Are work area and hangar safety inspections being conducted by quality control personnel periodically as per FM 1-511, chapter 3?

10. Publications.

a. Are aircraft maintenance publications current, available, and used? (DA Pam 310-1; FM 1-511, chapter 2)

(1) Do aircraft maintenance areas have sufficient quantities of applicable manuals for assigned work? (AR 750-31)

(2) Is the DA Form 12 series available and up to date?

(3) Does the quality control publications NCO know what publications he or she is to receive?

(4) Are appropriate publications used at all times when working on aircraft? (AR 750-1)

(5) Are required publications carried aboard each aircraft? (AR 95-1, chapter 1, appendix A)

b. Is there a policy requiring quality control and maintenance personnel to familiarize themselves with publications, using a technical data familiarization chart or by initialing the TM? (FM 1-500, pages 5-11 and 5-25; FM 1-511, chapter 2)

c. Does the unit participate in the submission of recommended changes to publications using DA Form 2028? (FM 1-511, chapter 2)

Section 15

Maintenance Work Area

1. Supervision.

a. Do maintenance supervisors ensure that accident prevention measures are included in the maintenance annex to the unit SOP and are complied with in all maintenance operations? (FM 1-500, pages 6-10 and 6-11)

b. Do personnel using power tools (drills, grinders, lathes, torches, etc.) wear safety goggles and noise attenuating devices as required? (TM 55-1500-204-25/1, para 7-12h)

c. Are mechanics restricted from wearing jewelry when performing maintenance? (TM 55-1500-204-25/1, para 7-12i)

2. Shop/hangar safety markings.

a. Are "Personnel Safe Aisles" properly marked (2 yellow lines 4 inches wide with 44 inches between lines), and do they lead to the nearest exit? (AR 385-30, para 1-6a(7); NFC Vol. 10, code 101-183)

b. Are proper markings present to identify physical hazards such as striking against, stumbling, falling, and tripping? (AR 385-30, para 1-6)

c. Are flammable liquid containers properly marked (red with yellow band and black lettering) so not to be mistaken for trash containers? (AR 385-30, para 1-6a(5))

d. Are trash containers properly marked (yellow with black lettering) so not to be mistaken for oily rag containers? (AR 385-30, para 1-6)

e. When aircraft are on jacks, are the following safety practices complied with? (TB 43-0142 and TM 55-1500-204-25/1)

(1) Are "Aircraft on Jacks" or "Caution" signs displayed?

(2) Are restricted areas roped off?

(3) Are aircraft jacks marked with load rating and date of next periodic inspection?

3. Fire prevention.

a. Are smoking and no smoking areas designated, and are "No Smoking" signs posted? (TM 55-1500-204-25/1, para 7-12)

b. Are oily rags stored in self-closing metal containers? (TM 55-1500-204-25/1, chapter 7)

c. Are the required number and types of fire extinguishers available in the shops and hangar? (TM 55-1500-204-25/1, paras 3-322 and 7-12k, l, and m)

d. Are shop and hangar fire extinguishers inspected as required? (AR 420-90, chapter 7; TM 55-1500-204-25/1, para 3-322)

e. Are shop and hangar personnel trained in the use of firefighting equipment? (TM 55-1500-204-25/1, para 7-12k)

f. Are all aircraft grounded when parked in the hangar; while servicing (refueling, defueling, arming, or working with hydraulic fluids or any other flammable liquid); and while external power is applied to the aircraft? (TM 55-1500-204-25/1, para 1-51d)

g. Are there enough grounding points to adequately support the unit's aircraft parking areas and maintenance facility?

h. Are all grounding points properly marked (18-inch yellow circle with a 2-inch black border, the words "Static Ground Connection," and a numeric or alphanumeric identification of the point)? (FM 10-68, page 7-7)

i. Are all ground wires inspected before use? (FM 10-68, page 7-7)

j. Is the entire grounding system over which the unit has responsibility inspected annually or when there is a possibility of mechanical damage? (FM 10-68, page 7-7)

k. Does the unit keep a log that identifies each rod, the date tested, and the reading in ohms? (FM 10-68, page 7-7)

4. Foreign object damage (FOD) prevention.

a. Is the FOD prevention annex to the unit SOP adequate? (AR 385-95, chapter 3; FM 1-500, appendix K-4)

b. Is a specified time established for policing aircraft parking areas, runup areas, exhaust areas, runways, and taxiways, and is the police being accomplished as established? (TM 55-1500-204-25/1, para 5-167a; FM 1-500, appendix K, para 6c; AR 385-95)

c. Are sufficient FOD receptacles available in all work areas into which trash, ferrous and nonferrous scrap, safety wire, etc., may be placed? (TM 55-1500-204-25/1, para 5-167f; FM 1-500, appendix K, para 4c; AR 385-95)

d. Are engine inlet areas inspected before engine runup and loose hardware and other foreign objects removed? (TM 55-1500-204-25/1, para 5-167d; AR 385-95, para 3-3e(7))

e. Are hydraulic, fuel, and oil lines protected (capped or plugged) from contaminants while disconnected? (TM 55-1500-204-25/1, para 7-42a)

f. Are unsealed containers of oil and hydraulic fluid classified as contaminated and destroyed? (TM 55-1500-204-25/1, para 1-61c)

5. General maintenance practices.

NOTE: FM 1-511, Army Aircraft Quality Control and Technical Inspection (29 May 87) has a similar checklist in chapter 3, Shop Inspection.

a. Are parts and items that have been removed from aircraft properly marked and stored? (DA Pam 738-751, chapter 2; FM 1-511)

b. Are all parts removed from aircraft recorded immediately on the appropriate forms? (DA Pam 738-750)

c. Are aircraft towed at walking speed (5 mph), and are blade walkers properly used and positioned if required? (TM 55-1500-204-25/1, para 1-69c(2) and 1-69a(3))

6. Housekeeping.

a. Are shops and hangars kept clean and free of accumulations of grease and oil on floors? (FM 1-500, page K-5; FM 1-511, chapter 3)

b. Are drip pans used under aircraft in hangars? (FM 1-500, appendix K, para 6a; TM 55-1500-204-25/1, para 7-10a)

c. Are approved cleaning materials available to clean up spills?

d. Are floors being cleaned with volatile or flammable liquids?

e. Are shops and hangars well arranged and uncluttered? (FM 1-500, appendix K, para 6b)

f. Are cleanup periods established and followed? (FM 1-500, appendix K, para 6c)

g. Is there an adequate number of trash cans available in each work area, and are they being properly used? (TM 55-1500-204-25/1, para 7-10f; FM 1-500, appendix K, para 4c)

h. Is there a system established to empty trash cans when necessary or daily? (TM 55-1500-204-25/1, para 7-10f and 7-12n)

7. Use of oxygen.

a. Are oxygen gaseous cylinders stored in a separate location away from aircraft servicing and maintenance areas of aircraft hangars? (Exception: cylinders scheduled to be installed in aircraft.) (NFPA 410, chapter 22)

b. Are oxygen gaseous storage areas properly marked?

c. Are safety precautions followed in all oxygen-handling operations?

d. Are empty and full cylinders stored separately with empty cylinders clearly marked?

8. Ground support equipment.

a. Are equipment and vehicle operators properly trained and thoroughly familiar with the operation, handling, care, and maintenance of equipment and vehicles? (AR 600-55; AR 385-95, chapter 2; FM 1-500, appendix K, para 8a; FM 1-511)

b. Are vehicle operators properly licensed? (AR 600-55, para 2)

c. Are ground support equipment (i.e., APU, generator) operators properly licensed? (TB 600-1, para 3)

d. Are maintenance/operator manuals located with the equipment? (TM 55-1500-204-25/1, chapter 7; FM 1-511; FM 1-500, appendix K, para 8d)

e. Are the proper maintenance records maintained on equipment? (DA Pam 738-750)

f. Is ground-handling equipment properly reflectorized? (TM 55-1500-204-25/1, para 8-65)

9. Maintenance paint shop.

a. Are tops of booths, shelves, and other surfaces in the paint shop cleaned to prevent lint accumulation? (TM 55-1500-204-25/1, para 7-95)

b. Are dope or paint deposits removed from the floor? (FM 1-511, chapter 3; TM 55-1500-204-25/1, para 7-95)

c. Is there more paint and dope stored in the paint shop than will be used during one work shift? (FM 1-511, chapter 3; TM 55-1500-204-25/1, para 7-95c(1))

d. Are fire extinguishers provided throughout the shop area? (FM 1-511, chapter 3; TM 55-1500-204-25/1, para 7-95c(6))

e. Is all electrical equipment in the paint shop explosion-proof? (TM 55-1500-204-25/1, para 7-95b; FM 1-511, chapter 3)

f. Are smoking restrictions posted and enforced? (TM 55-1500-204-25/1, para 7-95c)

g. Are covered waste containers used and emptied daily? (TM 55-1500-204-25/1, para 7-10g)

h. Are flammable liquid containers properly marked? (AR 385-30, para 1-6)

Section 16

Battery Shop/Maintenance

1. Does the battery shop have an operational SOP? (TB 385-4, page 2, para 6)

2. Are facilities provided for flushing and neutralizing spilled electrolyte? (OSHA Std. 1910.178(g)(2))

3. Are arc-proof switches installed? (OSHA Std. 1910.178(g)(11))

4. Are shop floors of acid-resistant construction or protected from acid accumulation? (OSHA Std. 1926.403(a)(4))

5. Are the required checks performed on each aircraft battery and battery system? (appropriate -23 and battery manual)

6. Is the flow chart (figure 2-12, TM 11-6140-203-14-1) followed during DS/GS maintenance? (TM 11-6140-203-14-1, para 2-20)

7. Is the battery filler-cap vent valve tested for proper operation? (TM 11-6140-203-14-2, para 5-13)

8. Training.

a. Have battery maintenance personnel received formal training (MOS 68F) in the care of nicad batteries? (FM 1-511, page 3-11)

b. Are battery maintenance personnel thoroughly trained in the use of charging, discharging, and test procedures? (TM 11-6140-203-14-2, front cover; TB 385-4, page 8, section 17)

c. Do maintenance personnel understand that cells from different manufacturers cannot be mixed in the same battery? (TM 11-6140-203-14-2, paras 5-10e and 5-12)

9. Equipment.

a. Are all racks and trays substantial and treated to be resistant to electrolyte? (OSHA Std. 1926.403(a)(3))

b. Are separate tools and equipment available and used to maintain each type of battery? (TM 11-6140-203-14-1, para 2-22(a) and front cover)

c. Is an electrolyte-level checking device available, such as shown in TM 11-6140-203-14-2, para 5-6?

d. Are the following safety items available in or near the battery shop and used when needed?

(1) Eyewash and/or shower provided within 25 feet of the work area? (FM 1-511, page 3-10; OSHA Std. 1926.403(a)(6))

(2) Fire extinguisher (class C)? (FM 1-511, page 3-10; TB 385-4, para 15d)

(3) Aprons, rubber gloves, and face shields or goggles (all provided as part of tool kit, TK 90/16)? (TM 11-6140-230-14-2, para 5-1; TB 385-4, para g12d)

(4) A safety bulletin board with all required items posted in accordance with TB 385-4? (FM 1-511)

e. Are the following items available and used?

(1) Tool kit, TK 90? (TM 11-6140-203-14-2, para 4-2)

(2) Charger/analyzer or charger with load bank (AN/ASM-137 or A)? (TM 11-6140-203-14-2, para 5-3)

(3) Test equipment (TS-352, B/U)? (TM 11-6140-203-14-2, para 4-2)

(4) All required technical literature? (AR 750-1, para 1-4g(8))

10. Ventilation.

a. Is the battery charging area adequately ventilated to prevent accumulation of explosive gases? (NFC 410-7, para 2-25; TM 11-6140-203-14-2, page 3-4 and front cover)

b. Is mechanical ventilation (when required) of the type approved for use in Class 1, Group B hazardous locations as defined in NEC 500 and 513? (NFC 410-7, para 2-2.14)

c. Do exhaust ducts lead directly to the outside above roof level where fumes cannot accumulate? (NFC 410-7, para 2-2.14)

11. Charging area.

a. Are smoking and open flames or sparks prohibited in the charging area? (OSHA Std. 1910.178(g)(10) and (11))

b. Is the charging area marked "No Smoking"? (OSHA Std. 1910.178(g)(10) and (11))

12. How have the commander, safety officer, and supervisory personnel ensured the following?

a. Tools and other conductive materials are stored or placed in such a position that they cannot fall into batteries, causing a short circuit and hydrogen ignition? (OSHA Std. 1910.178(g)(12); FM 1-511; TB 385-4)

b. All shop personnel remove all jewelry while working with batteries? (NFC 410-8; FM 1-511)

c. Necessary inspections, cleaning, and repairs are accomplished before charging? (FM 1-511)

d. Charging equipment is energized after the battery has been connected to the circuit? (TM 11-6140-203-14-1, inside front cover)

e. Water or electrolyte is added to the battery only when fully charged and stabilized for at least 30 minutes? (TM 11-6140-203-14-2, para 5-6)

f. Nonseal type batteries are located in enclosures with outside vents or in well-ventilated rooms and arranged to prevent the escape of fumes, gases, or electrolyte spray into other areas? (OSHA Std. 1926.403(a)(2))

g. Lead acid batteries are stored separately from nicad batteries? (TM 11-6140-203-14-2, para 2-22(a) and front cover)

h. Acids are properly stored?

i. Cell shorting straps are used to completely discharge cells to 0 volts? (TM 11-6140-203-14-2, para 5-7b(2))

j. Maintenance personnel monitor the voltage of individual cells at regular intervals during charge and discharge cycles? (FM 1-511; TM 11-6140-203-14-2)

k. Discharge times are strictly followed during battery capacity tests? (TM 11-6140-203-14-2; FM 1-511)

Section 17

Avionics/Electrical

1. Does the unit have an MTOE/MTDA adequate for its mission? (DA Staffing Guide)

2. Does the unit have an adequate avionics maintenance SOP? (TB 385-4, page 2, para 6)

3. Training.

a. Is there an active cross-training or OJT program with current documentation? (FM 1-500, page 5-23)

b. Does the unit have a training program to educate personnel in safety aspects and lifesaving techniques appropriate to the work being performed? (AR 385-10, para 5-2g)

4. Test equipment.

a. Are calibration requirements for test equipment kept up to date? (TB 750-25; TB 43-180)

b. Is all test equipment properly grounded? (TB 385-4, para 14)

5. How does the commander ensure knowledge of and compliance with the following?

a. A mounted safety board is present in the shop? (TB 385-4, para 9g(12))

b. Rubber floormats or similar insulating materials are provided for repair positions? (TB 385-4, para 9g(11); FM 1-511, page 3-12)

c. All power attachment plugs and connectors are serviceable with no exposed current-carrying parts except the prongs? (OSHA Std. 1910.305; FM 1-511, page 3-12)

d. All physical and high-voltage hazards have been identified and marked IAW AR 385-30?

6. Has aircraft-mounted avionics equipment been properly safety wired? (TM 55-1500-328-25; FM 1-511, page 3-13)

7. Is the Operational Readiness Float (ORF) Program established and maintained? (AR 750-1, para 9-2)

8. Are maintenance shop stock procedures followed? (AR 710-2, para 3)

9. Are unserviceable/repairable items being turned in promptly? (AR 750-1, para 4-22)

10. Are technical inspections of repairable equipment being accomplished? (FM 1-511, page 3-12)

11. Are maintenance forms and records correctly prepared and properly maintained? (DA Pam 738-751)

12. Are necessary technical publications on hand and current? (DA Pam 310-1)

Section 18

Aviation Armament

NOTE: Ideally, aviation armament operations should be surveyed during aerial gunnery. If this is not possible, review of SOPs, presence and condition of required equipment, and documentation from previous exercises can be used to determine normal compliance with these guidelines.

1. Does the installation have in effect a written set of range safety regulations for aerial gunnery? (AR 385-63, para 2-1; FM 1-140, paras 5-15 and 5-16)

2. Is a qualified officer in charge (OIC) designated to ensure the safe operation of a firing range or area? (AR 385-63, para 4-2b(2))

3. Does the SOP outline the general safety precautions necessary in firing and other uses of guided missiles, heavy rockets, and conventional ammunition and explosives by troops in training, target practice, and, to the extent practical, combat? (AR 385-62, para 2-1b)

4. Is a helicopter aerial gunnery safety control plan (SCP) outlined in the unit SOP? (FM 1-140)

5. Are all air corridors, from ammunition loading site to firing range (lane), the range flight pattern, and return route to the loading site, plotted on a map or chart? (AR 385-63, para 13-1f)

6. Do the surface danger zones for aerial fired weapons conform to table 13-2 and figures 13-1, -2, -3, -4, and -5 of AR 385-63?

7. Are minimum slant ranges from the aircraft to the point of projectile impact established to assure that the helicopter is not included in the hazard area of ammunition fragmentation, rebound, or ricochet? (AR 385-63, para 13-5c)

8. Are aircraft weapons systems loaded and unloaded in authorized areas where surface danger zones are computed? (AR 385-63, para 13-2c)

9. Are cease-fire procedures outlined in the firing SOP? (AR 385-62, para 2-1h)

10. Are antitank guided missile (ATGM) aerial firing safety procedures outlined in the unit SOP? (AR 385-62, para 2-1b)

11. During prefiring preparation and firing, are all munitions, components, and explosives handled and assembled in accordance with applicable safety regulations published in appropriate technical manuals and field manuals? (AR 385-63, para 1-5b; FM 17-40, page 5-15)

12. Are requirements followed for storing and handling of ammunition? (AR 385-64; TM 9-1300-206)

13. Does the battalion, squadron, or higher commander authorize "hot rearming" (rearm with rotors turning) before such operations take place? (AR 385-63, para 13-2d)

14. Are procedures established for handling ammunition and explosives malfunctions? (AR 385-62, para 2-4)

15. Are aircraft pyrotechnics (flares and ATWES) removed from the aircraft when not required? (TM 9-1370-201-12, para 1-8g)

16. Are ground safety pins inserted in the ejector racks after the helicopter has been shut down after each flight? (TM 55-1520-234-23/2, para 16-6; TM 55-1520-221-23/2, para 16-28; TM 55-1520-236-23/2, para 16-38)

17. Are jettison cartridges removed from the pylon stores ejection device before placing the aircraft in a hangar for extended maintenance or storage? (TM 55-1520-234-23/2, para 16-5; TM 55-1520-221-23/2, para 16-33; TM 55-1520-236-23/2, para 16-33)

18. Are jettison cartridges marked on the cartridge base each time the cartridge is removed from the ejection rack? (TM 55-1520-221-23/2, para 16-35b; TM 55-1520-234-23/2, para 16-5; TM 55-1520-236-23/2, para 16-35)

19. Are weapon record data forms maintained?

20. Do ground crew personnel servicing or maintaining weapon subsystems, especially in the area of loading, unloading, and operational checks, observe the following precautions?

a. Wear proper uniform (sleeves rolled down, shirt tucked in, etc.)? (FM 1-140, para 5-15)

b. Thoroughly understand and comply with arming procedures for assigned weapon subsystems? (FM 1-140, para 5-15)

c. Thoroughly understand and correctly use hand signals? (FM 1-140, para 5-15 and figure 5-1)

d. Thoroughly understand and comply with routine and emergency dearming procedures? (FM 17-40, pages 6-11 and 6-9)

e. Perform functional checks with dummy ammunition only? (TM 9-1090-203-12, para 5-2d)

f. Use protective equipment as appropriate (dust goggles, hearing protection, safety shoes, etc.)? (FM 1-140, paras 5-7 and 5-12)

g. Remove FOD-producing items (ammunition residue, tools, etc.) from rearm pads and other work areas? (AR 385-95, paras 3-3e(1) and (3))

21. Are "No Smoking" signs posted within 50 feet of firing pads, ready storage sites, or assembly sites? (AR 385-62, para 2-3a(3))

22. Are proper warning signals and signs displayed on the range during day and night firing? (AR 385-63, para 2-7)

23. Is lot integrity maintained during the storing of ammunition to ensure proper accounting for all lots on hand? (FM 9-13, pages 44 and 128)

a. Are proper lot records maintained to enable reporting in the event of ammunition malfunction? (FM 9-13, page 128, appendix B)

b. Are lots segregated at ready ammunition storage sites, basic load storage sites, and rearm points? (FM 9-13, page 128, appendix B)

c. Are lots mixed within the same launcher? (FM 9-13, page 128, appendix B)

24. Are aircraft grounded during arming and disarming operations? (FM 9-13, page 128, appendix B)

25. Are aircraft grounded when armed and parked in revetments? (FM 9-13, page 128, appendix B)

26. Are shorting wire clips or metal fire protectors properly installed on all rocket motors and complete rockets whenever the rockets are not installed in the launchers? (FM 9-13, page 129, appendix B)

27. If a 2.75-inch rocket motor or component is dropped more than 2 feet, is it rejected? (FM 9-13, appendix B, page 129)

28. Are fuze-warheads rejected if dropped more than 5 feet? (FM 9-13, appendix B, page 129)

29. Are barricades constructed around basic load storage areas, ready ammunition storage areas, and ammunition stored at the rearm points? (FM 9-13, appendix B, page 130)

30. Are rockets, 40mm ammunition, and small arms ammunition stored at rearm pads covered to protect from the elements? (FM 9-13, appendix B, page 130)

31. Are explosives limits maintained at the rearm point and ready ammunition storage areas? (FM 9-13, appendix B, page 131)

32. Are separation distances maintained at the rearm points and ready ammunition storage areas? (FM 9-13, appendix B, page 132)

33. Laser operations.

a. Are personnel involved in laser operations given instructions that will help them understand the hazards of that particular laser? (AR 385-63, para 19-2)

b. Are warning labels similar to those found on figure 1-5 affixed to the laser system housing near beam exit port on the laser fire button on trigger? (AR 385-9, para 6-3)

c. Are all specular (mirror-like) surfaces removed from laser target areas? (AR 385-63, para 19-6)

d. Are range boundaries during laser operations established IAW AR 385-63, chapter 19?

e. Are temporary warning signs properly placed around the range area during laser operations? (AR 385-63, para 19-6)

f. Do individuals within the laser range danger area receive and wear laser protective eyewear? (AR 385-63, chapter 19)

g. When aircraft are operating outside the range area, are laser exit ports on the aircraft covered with an opaque dust cover or ballistic cover to prevent accidental firing of the laser? (AR 385-63, chapter 19)

h. Is a laser safety officer present on ranges and in training areas where laser devices are being used? (AR 385-63, chapter 19)

Section 19

Technical Supply

1. Is the unit required to maintain a prescribed load list (PLL)? (DA Pam 710-2-1, para 8-2)

a. Is the PLL properly computed and current? (DA Pam 710-2-1, chapter 8)

b. Are PLL items replenished as used? (DA Pam 710-2-1, para 8-1)

2. Is the unit's authorized stockage list current (reviewed within the last 6 months)? (AR 710-2)

3. Are the document register and other documents current and posted correctly? (DA Pam 710-2-1, paras 2-19 and 8-14)

4. Does the stockage location of each DX item coincide with the location listed on the Title Insert (DA Form 3318)? (DA Pam 710-2-1, para 8-19a)

5. Are supplies in open storage preserved properly to withstand exposure to elements? (DOD 4145.19-R-1, para 3-607a)

6. When covering supplies (stored outside) with tarpaulins or other such materials, is a 12- to 18-inch clearance maintained between the bottom of the covering and the ground? (DOD 4145.19-R-1, para 3-607a(2))

7. Are the following minimum ground clearances maintained when using dunnage? (DOD 4145.19-R-1, para 3-607a(3))

a. Well-drained paved or blacktop area: 4 inches.

b. Well-drained gravel or similar surface: 8 inches.

c. Ungraded or poorly drained area: 10 inches above the highest possible water level.

AR 40-3

Medical, Dental, and Veterinary Care

AR 40-4

Army Medical Department Facilities/Activities

AR 40-5

Health and Environment

AR 40-8

Temporary Flying Restrictions Due to Exogenous Factors

AR 40-21

Medical Aspects of Army Aircraft

AR 40-501

Standards of Medical Fitness

AR 55-203

Movement of Nuclear Weapons

AR 58-1

Management, Acquisition and Use of Administrative Motor Vehicles

AR 95-1

Army Aviation: General Provisions and Flight Regulations

AR 95-2

Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigational Aids

AR 95-3

General Provisions, Training, Standardization, and Resources Management

AR 95-16

Weight and Balance: Army Aircraft

AR 95-21

Security Control of Air Traffic and Air Navigation Aids

AR 95-27

Operational Procedures for Aircraft Carrying Hazardous Materials

AR 95-33

Army Aircraft Inventory, Status, and Flying Time

AR 95-37

Air Traffic Control General Provisions

AR 95-50

Airspace and Terminal Instrument Procedures

AR 95-87

Aircraft Hurricane Evacuation

AR 115-10

Meteorological Support for the U.S. Army

AR 115-12

U.S. Army Requirements for Weather Service Support

AR 200-1

Environmental Protection and Enhancement

AR 385-10

Army Safety Program

AR 385-30

Safety Color Code Markings and Signs

AR 385-40

Accident Reporting and Records

AR 385-62

Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice, and Combat

AR 385-63

Policies and Procedures for Firing Ammunition for Training, Target Practice, and Combat

AR 385-64

Ammunition and Explosives Safety Standards

AR 385-95

Army Aviation Accident Prevention

AR 420-72

Surfaced Areas, Railroads, and Associated Structures

AR 420-90

Fire Prevention and Protection

AR 600-55

Motor Vehicle Driver and Equipment Operator Selection, Training, Testing and Licensing

AR 600-200

Enlisted Personnel Management System

AR 616-110

Officer Career Program for Flight Surgeons, MOS 3160

AR 672-74

Army Accident Prevention Awards

AR 703-1

Coal and Petroleum Products Supply and Management Activities

AR 710-2

Supply Policy Below the Wholesale Level

AR 750-1

Army Materiel Maintenance Concepts and Policies

AR 750-31

Technical Publications for Aircraft Files

ATM

Aircrew Training Manual

CTA 50-900

Clothing and Individual Equipment

DA Pam 310-1

Consolidated Index of Army Publications and Blank Forms

DA Pam 310-10

Guide for Publication Supply Personnel

DA Pam 385-1

Unit Safety Management

DA Pam 385-95

Aircraft Accident Investigation and Reporting

DA Pam 710-2-1

Using Unit Supply System, Manual Procedures

DA Pam 738-750

The Army Maintenance Management System (TAMMS)

DA Pam 738-751

Functional Users Manual for The Army Maintenance Management System

DOD 4145.19-R-1

Storage and Materiel Handling

DOD FLIP

Flight Information Publication

FC 1-140

Helicopter Gunnery

FC 1-210

ATM: Commanders Guide

FC 1-219

ATM: Night Vision Goggles

FAA AIM

Airman Information Manual

FM 1-140

Aerial Gunnery

FM 1-200

Air Traffic Control Facility Operations and Training

FM 1-203

Fundamentals of Flight

FM 1-204

Night Flight Techniques and Procedures

FM 1-230

Meteorology for Army Aviators

FM 1-300

Flight Operations and Airfield Management

FM 1-302

Aviation Life Support Equipment for Army Aircrews

FM 1-500

Army Aviation Maintenance

FM 1-508-1

Maintaining Aviation Life Support Equipment

FM 1-511

Army Aircraft Control and Technical Inspection

FM 9-13

Ammunition Handbook

FM 10-68

Aircraft Refueling

FM 10-69

Petroleum Supply Point Equipment and Operations

FM 10-70

Inspecting and Testing Petroleum Products

FM 10-71

Petroleum Tank Vehicle Operations

FM 21-60

Visual Signals

FM 57-38

Pathfinder Operations

MIL-HDBK-200F

Quality Surveillance Handbook for Fuels, Lubricants, etc.

MIL-HDBK-201B

Petroleum Operations

MIL-STD-1223X

Nontactical Wheeled Vehicle Treatment, Painting, and ID Marking

NFPA STD 402

National Fire Protection Association

NFPA STD 403

National Fire Protection Association

NFPA STD 410

National Fire Protection Association

OSHA STD 1910

Occupational Safety and Health Act

OSHA STD 1926

Occupational Safety and Health Act

SB 11-6

Primary Battery Supply Data

TB 43-0001-39-6

Equipment Improvement Report and Maintenance Digest

TB 43-180

Calibration and Repair Requirements for the Maintenance of Army Materiel

TB 43-0106

Aeronautical Equipment Army Oil Analysis Program (AOAP)

TB 43-0142

Safety Inspection and Testing of Lifting Devices

TB 95-1

U.S. Army Air Traffic Control and NAVAID Facility Standards

TB 385-4

Safety Precautions for Maintenance of Electrical/Electronic Equipment

TB 600-1

Procedures for Selection, Training, Testing, and Qualifying of Operators of Equipment/Systems, Excluding Selected Watercraft and Aircraft, Managed/Supported by U.S. Army Troop Support and Aviation Materiel

TB 750-25

Maintenance of Supplies and Equipment and Repair Support Program

TB Med 501
Hearing Conservation

TM 5-315
Firefighting and Rescue Procedures in Theaters of Operation

TM 5-330
Planning and Design of Roads, Airbases, and Heliports in the Theater of Operation

TM 5-678
Repairs and Utilities, Petroleum, Oils, and Lubricants (POL)

TM 5-803-4
Planning of Army Aviation Facilities

TM 5-823-4
Army Airfield-Heliport Operational and Maintenance Facilities (Marking)

TM 9-1090-203-12
Aviation Unit Maintenance Manual: Armament Subsystem Helicopter 7.62mm Machinegun/
40mm Grenade Launcher: M28A1

TM 9-1300-206
Ammunition and Explosive Standards

TM 9-1370-201-12
Operator's and Organizational Maintenance Manual Flare, Aircraft: Parachute, MK-45 and
Dispenser, Flare XM19

TM 10-8415-206-13
Operator, Organizational and Direct Support Maintenance Manual: Helmet,
Flying, Protective

TM 11-5855-238-10
Operator's Manual for Night Vision Goggles, AN/PVS-5 and AN/PVS-5A

TM 11-5855-238-20
Organizational Maintenance Manual: Night Vision Goggles, AN/PVS-5 and AN/PVS-5A

TM 11-6140-203-14-1
Operator's Organizational, Direct Support, and General Support Maintenance Manual for
Aircraft and Nonaircraft Nickel-Cadmium Batteries (General)

Glossary

AIM - Airman's Information Manual

ALSE - aviation life support equipment

ALSET - aviation life support equipment technician

ALSO - aviation life support officer

ALSS - aviation life support system

APART - Annual Proficiency and Readiness Test

ASO - aviation safety officer

ATC - air traffic control

ATGM - antitank guided missiles

ATM - aircrew training manual

ATP - Aircrew Training Program

AWS - Air Force Weather Service

CEU - continuing education unit

EIR - equipment improvement recommendation

EOD - explosive ordnance disposal

FAA - Federal Aviation Administration

FAC - flight activity category

FARE - forward area refueling equipment

FARP - forward area refueling point

FFP - firefighting plan

FOD - foreign object damage

FTX - field training exercise

HIRTA - high-intensity radio transmission areas

IATF - individual aircrew training folder

IAW - in accordance with

IFE - instrument flight examiner

IFR - instrument flight rules
IFRF - individual flight records folder
IFSTA - International Fire Service Training Association
IMC - instrument meteorological conditions
IP - instructor pilot
ISCP - installation spill contingency plan
MOC - maintenance operational check
MOS - military occupational specialty
MTFE - maintenance test flight examiner
MTP - maintenance test pilot
MWO - modification work order
NBC - nuclear, biological, chemical
NCO - noncommissioned officer
NFC - National Fire Code
NFPA - National Fire Protection Association
NOTAM - notice to airmen
NVD - night vision device
NVG - night vision goggle
OHR - operational hazard report
OIC - officer in charge
OJT - on the job training
ORF - operational readiness float
OSHA - Occupational Safety and Health Act
PC - pilot in command
PIREP - pilot report
PLL - prescribed load list
POL - petroleum, oils, and lubricants

PPC - performance planning card
PRAM - preliminary report of aircraft mishap
QDR - quality deficiency report
RL - readiness level
SCCP - spill contingency and countermeasure plan
SCP - safety control plan
SFTS - synthetic flight training systems
SIP - standardization instructor pilot
SOF - safety of flight
SOP - standing operating procedure
TDA - tables of distribution and allowances
TG - terminal guidance
TM - technical manual
TOE - table(s) of organization and equipment
USAALS - U.S. Army Aviation Logistics School
USAAVNS - U.S. Army Aviation School
UT - unit trainer
VFR - visual flight rules
VHIRP - vertical helicopter instrument recovery procedures